Studying the Effect of Web-Site Tutoring on Learning

An Interactive Qualifying Project Report

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Abstract. The ASSISTment system commonly employs tutoring to help students with math problems. This tutoring usually consists of hints that can be requested by the student. In this method, the hints point out key steps to solving the problem, concluding with the answer to the problem in the last hint. This study examines the benefits of providing the students with a link to a web page that teaches the topic that is most prevalent in the question. The primary purpose is to determine the effectiveness web-page based help versus traditional ASSISTment tutoring.

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Introduction

It has been shown that computer assisted tutoring systems can have benefits over traditional classroom teaching. It has also been shown that there are benefits in Intelligent Tutoring Systems, such as ASSISTments, over traditional classroom learning. One benefit from such a system can be found in the immediate tutoring available to students while working on a problem. This tutoring typically follows a pattern of hints, which the student may request. The hints are designed to give very little away initially, and conclude with the answer to the problem. This is to prevent a student from getting "stuck" on a particular problem.

Today, computers are available in most homes, and a large majority of people have internet access. As the internet grows and expands in popularity, children are becoming more and more used to being "online." The amount of help and tutoring for various school subjects at all levels is also growing at a rapid rate, and is becoming more widely used. School-age children especially grow more and more dependent on information that can be found on the internet, in all different aspects of school.

The goal of this study is to attempt to measure the effectiveness of "online" tutoring, such as can be found on various websites and through different educational videos found online. The effectiveness of the web pages will be studied both in respect to traditional learning with no tutoring and against the tutoring methods prevalent in ASSISTments.

Background

Other Systems:

Mastering Physics:

One intelligent tutoring system is Mastering Physics. Mastering physics is a homework assignment and tutoring system that is used as a supplement to teach physics. It uses a system of hints and sub-questions to lead students through problems as a way of teaching concepts. Mastering Physics incorporates adaptive tutoring and automatic grading as a way to provide students with feedback. Mastering Physics assignments will lead students to the correct answer if they need help through a system of hints and sub-questions.

Carnegie Learning:

Another intelligent tutoring system is the Cognitive Tutor developed as part of the approach used by Carnegie Learning. The Cognitive Tutor is used in the teaching of math to middle and high school students. The Cognitive Tutors are based on the ACT-R(Adaptive Control of Thought -- Rational) theory of learning, memory and performance which has been widely validated. The tutors are developed through a rigorous empirical testing.

ASSISTments:

ASSISTments is a web-based tutoring program for, but not limited to, 4^{th} to 10^{th} grade mathematics. The system tracks students' progress and about 120 skills.

Developing Content:

Content is developed by content creators. Content creators consist of teachers, IQP groups, and college students. ASSISTments provides a builder in order to create "assistments", which contain one or more related problems. Content creators can create problem sets from multiple assistments and tag them with skills. ASSISTments supports variabalized templates for assistments, which randomly generates numbers for variables in problems. This can be used to create a large number of unique problems. Problems can have tutoring strategies associated with them. Tutoring strategies consist of hints and scaffolding. Hints give students one hint at a time to steer them in the right direction. Scaffolding guides students by breaking a problem into separate steps and having a student solve it step by step.

Assigning Content:

Teachers can assign problem sets to their students with a number of different settings. Mastery learning, as used in this study, keeps asking students questions until they master the problem set, and thus the skill associated with it.

Viewing Content:

Students view their teacher's assignments online, and complete them through ASSISTment's web tutor.

Assessing Results:

Teachers can assess results through a variety of reports. For example, the mastery report tells teachers which students mastered an assignment and how long it took for them to master it. Teachers can use reports such as this to track their students' progress over time.

Comparison of Systems:

Unlike Carnegie Learning's Cognitive Tutor, Mastering Physics, and other applications, ASSISTments is a free system. ASSISTments gives teachers full controls of what problems and problem sets their students have to do. The system does not make any decisions by itself.

Project Goals

Building Assistments:

One goal of this project was to create content for the ASSISTments system. This involves creating ASSISTments, which consist of problems and their associated tutoring. For our study, we created variabilized ASSISTments, which are similar to normal ASSISTments, except that in the problem and in the hints there are variabilized numbers. This allows you to create a single template and then generate many different problems from it.

Each ASSISTment template that is created has two main parts, the problem body and the tutoring. First, the problem body must be made in a way so that the problem is not too complicated or too easy, and so that it also covers the skill well.

Secondly, the tutoring for each problem needs to be made very carefully. Each hint must guide the student in solving the problem without giving too much away. They must also encourage the student to think about the problem in helpful ways. The final hint must also give the student the answer, so that they can move on from the problem, and not get stuck.

Creating Problem Sets:

We created these templates based around different skills. Each skill is stored in the ASSISTments system. They represent different skills that students at various levels should know. In order to test the knowledge of the students, mastery problem sets are created for each skill. Students must take these mastery problem sets, and if they get a certain number correct in a row, they have "mastered" the skill. Using the templates we created for each skill, we then created many different instances of each problem, which were then combined into problem sets. Each problem set will have various settings, the most important of which is the number that a student must get correct in a row in order to "master" the skill and move on. This number depends on varying factors, primarily how difficult the problems or the skill is perceived to be.

For our study, we also had to create problem sets that were specialized for the experiment. They consisted of a randomly selected first problem that would have either normal tutoring or web site based tutoring. Then each problem set had the same second problem to serve as a control. Finally, a student would enter a mastery section, which would behave just the same as a mastery problem set.

The skills for each of our problem sets were the following: Writing Linear Equations from slope and y-intercepts ,Finding Slope in an Equation ,Finding y-intercept from Linear Equation, Finding y-intercept from Linear Situation, Finding Slope in Situation, Substitution, Pattern Finding, Finding Slope from Ordered Pairs, and Recognizing Linear Patterns.

Content Summary:

For the project, we have completed templates, mastery problem sets, and problem sets for the study for several skills, which can be found both on the ASSISTments teacher wiki and in the appendix.

Experimental Design

Hypothesis:

Currently, the cultural and societal trend is towards high utilization of the internet. Most homes in the United States now have internet access, and many children are becoming more and more accustomed to not only browsing the web for fun, but using the internet to help with homework and learning. This experiment was an attempt to validate the theory that some students would be able to learn more from web based tutoring than from the traditional tutoring found in ASSISTments.

Method:

Setup:

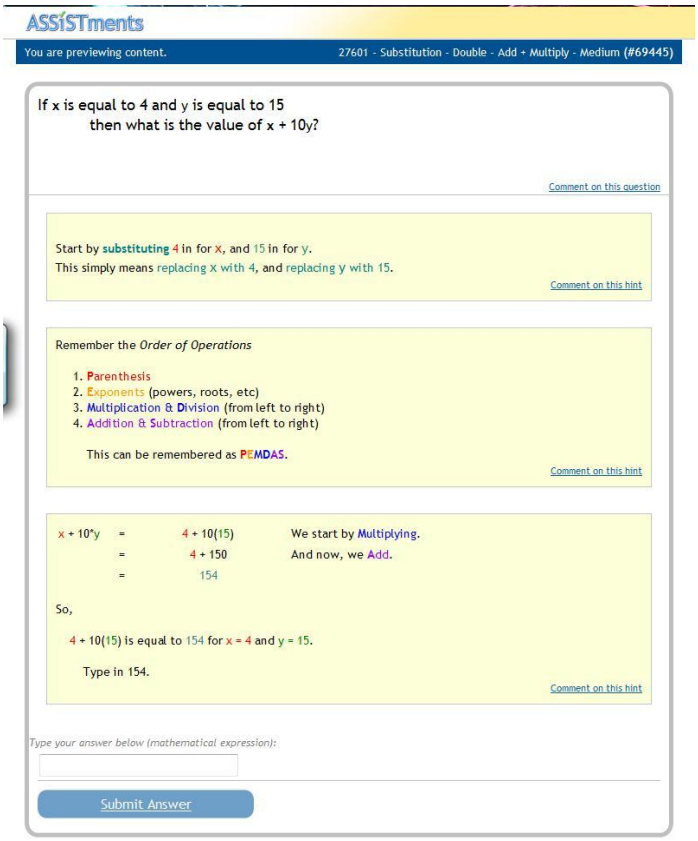
The setup for this experiment consisted of two main parts. First of all, the content needed to be created. This involved creating the variabilized templates for the various skills. Each template needed to have a problem body as well as tutoring. Each template needed to also have a copy in which the normal tutoring was replaced by web page tutoring.

After the templates were prepared, the problem sets needed to be created for the study. These were designed to give us the most accurate results for the effectiveness of both kinds of tutoring, web site tutoring and the classic ASSISTments tutoring. Each problem set consisted of

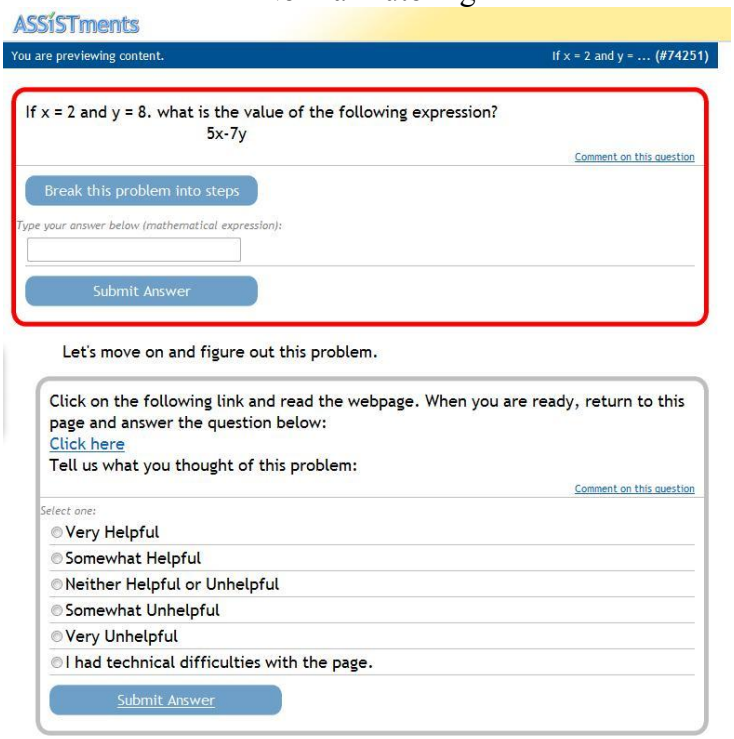
a random initial problem from the templates. This problem would either have normal tutoring, web page 1, or web page 2. The second problem was then always the same regardless of the initial condition, with normal tutoring. After the first two problems, the user is sent into a regular mastery condition, where they must get a certain number of problems right in a row to advance and "master" the skill.

The first problem the user encounters will determine which type of tutoring they experience. The second problem was kept constant to determine how well the user could do after receiving the initial tutoring (assuming they got the first problem wrong) and to make comparison between the types of tutoring possible and not affected by varying difficulties for the second problem. The final mastery section also provides valuable data as to how well the students did who received one type of tutoring versus students who received a different type of tutoring.

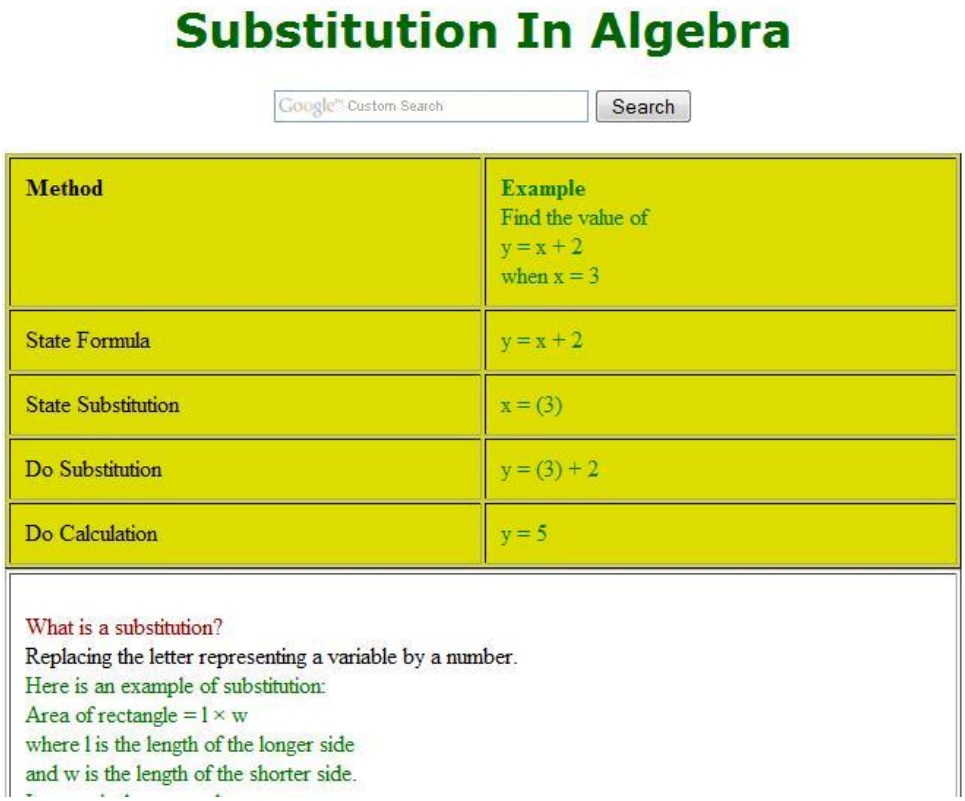
Having two different web pages also provided important information. First, it allowed for a more accurate assessment of the overall effectiveness of web sites. Secondly, it allowed more room for possible technical difficulties that the users may encounter with the different sites. Third, it allowed for a direct comparison of different web sites, allowing us to see if one site was significantly better than the other.



Normal Tutoring



Web Tutoring



Substitution In Algebra

Google™ Custom Search Search

Method	Example Find the value of y = x + 2 when x = 3
State Formula	y = x + 2
State Substitution	x = (3)
Do Substitution	y = (3) + 2
Do Calculation	y = 5

What is a substitution?
Replacing the letter representing a variable by a number.
Here is an example of substitution:
Area of rectangle = l × w
where l is the length of the longer side
and w is the length of the shorter side.

One of the web pages used

Experimental Environment:

This experiment was carried out on the ASSISTments system by teachers in the classroom. Various teachers from different classes assigned the problem sets from the study to the students in their class. Each student had to then go through and do each problem set, providing us with not only multiple different problem sets with results but also individuals with results in two different problem sets, which cover different skills.

Each teacher was familiar with using the ASSISTments system. Therefore, running the study was the same for them as assigning any other problem set that they would normally assign. The students were also familiar with the ASSISTment system, and experienced nothing different than the normal problem sets they are used to, aside from the web site based tutoring.

Recording Data:

All of the data from the experiment was recorded into the ASSISTments system. As a student worked on a problem set for the study, their results were automatically recorded in the system. Variables such as which problems they saw, what answers they gave, and how long it took them were recorded, along with many others. When it came time for analysis, the data was simply pulled out of the ASSISTments system database and placed into excel spread sheets for easy analysis.

Analysis:

There is a lot of variance in the average z-scores for time to master for problem sets with normal tutoring, as seen in Figure 1. This means that the difficulty levels of the different problem sets also varied quite a bit. This variance is a lot less in the problem sets with web tutoring.

Row Labels	Average of z_time
9135	0.133651053
9239	0.258675318
9240	0.657163032
9305	-0.614991198
9306	0.549870132
9317	-0.317760098
9319	-0.476501354
Grand Total	**-0.007061524**

Figure 1
This pivot table shows the time to master for the normal tutoring for each problem set as a z-score.

Sum of time_in_mastery	Column Labels								
Row Labels	9135	9239	9240	9305	9306	9317	9319	(blank)	Grand Total
78261									
78289	321.91	87.97			26.41	52.4	55.16		543.85
78290	168.65	42.93	27.28	269.42	41.36	89.42	11.09		650.15
78292	62.32	136.96	47.21	141.34	44.33	94.33	141.79		668.28
78293	366.39	99.96			59.69	34.1	72.02		632.16
78295	107.65	186.16		224.44	20.51	235.75	60.15		834.66
78296	183.97	133.11		633.98	51.38	54.73	78.67		1135.76
78297	215.44	48.58	77.17	282.76	19.66	27.53	16.88		688.02
78298	66.84	130.08	34.39	485.59	82.79	55.09	14.46		869.15
78299	99.27	97.05	54.48	398.93	26.54	85.83	52.83		814.93
78300	392.83	60.14	21.25	511.61	64.74	14.81	17.12		1082.5
78301	244.69	60.88	15.27	119.85	29.66	62.89	34.24		567.48
78302	76.32	358.83		33.76	24.74		44.03		537.68
78303	130.04	42.02	15.36	42.96	45.13	120.24	21.71		417.46
78304		63.44			88.83	101.63			253.9
78305	113.93	48.38		68.69	98.96	454.89	45.45		830.3
78306	131.86	195.02		414.41	44.7	50.04	25.02		861.05
(blank)									
Grand Total	**2682.11**	**1791.51**	**292.41**	**3627.57**	**769.43**	**1533.68**	**690.62**		**11387.33**

Figure 10
This pivot table shows the raw time data for students in the mastery condition per problem set.

Figure 1 shows the z-score for the time that students spent in mastery for each problem set. Z-scores were used because each problem set by nature is very different, with some being much easier and others being much more difficult. Therefore the time it takes to master for each problem set cannot be directly compared without first taking the z-score. The average z-score for time to master for web tutoring was about 0.025 of a standard deviation less than the time to

master for normal tutoring (Figures 1 and 2). So generally, students mastered problem sets with web tutoring faster than the problem sets with normal tutoring. The t-test performed on the data in Figures 1 and 2 gave a value of 0.865038049 meaning it was not conclusive.

Row Labels	Average of z_time
9135	-0.066825527
9239	-0.201191914
9240	-0.219054344
9305	0.111816582
9306	-0.249940969
9317	0.144686076
9319	0.22077393
Grand Total	**-0.031131335**

Figure 2
This pivot table shows the time to master for web tutoring for each problem set as a z-score.

Figure 3 also hints toward the varying levels of difficulties between the different problem sets.

Row Labels	Average of total_mast_seen
9135	3
9239	5.375
9240	4.666666667
9305	13.25
9306	5
9317	4.272727273
9319	3.5
Grand Total	**5.4**

Figure 3
This pivot table shows the average number to master per problem set for students who both got the first problem wrong and also eventually mastered.

Figures 4 and 5 show that the number of problems to master a problem set is less on average for problem sets with normal tutoring. This seems to contradict the previous analysis of web tutoring problem sets being done faster than normal tutoring. This means that students were doing more problems faster in problem sets with web tutoring than those of normal tutoring. So, the extra time being put into normal tutoring yields better results, as far as the number of problems to master is concerned. This hints towards similar results of Leena Razzaq and Neil Heffernan who discovered that high knowledge kids benefit more from complete solutions than tutoring when time is controlled. The t-test performed on the data in Figures 4 and 5 gave a value of 0.680797 meaning the data is not conclusive.

Row Labels	Average of total_mast_seen
9135	3
9239	3.75
9240	4
9305	16.66666667
9306	5
9317	4.5
9319	3.75
Grand Total	**5.95**

Figure 4

This pivot table shows the average number to master per problem set with web tutoring for students who both got the first problem wrong and also eventually mastered.

Row Labels	Average of total_mast_seen
9135	3
9239	7
9240	5
9305	3
9317	4
9319	3
Grand Total	**4.666666667**

Figure 5

This pivot table shows the average number to master per problem set with normal tutoring for students who both got the first problem wrong and also eventually mastered.

Figure 6 shows that students were fairly consistent with their opinions toward different web pages. That is, if they felt that one webpage was useful, they would feel that the other ones they encountered were useful, and vice versa.

Average of resp	Column Labels							
Row Labels	**9135**	**9239**	**9240**	**9305**	**9306**	**9317**	**9319**	**Grand Total**
78261						1		1
78289							1	1
78290						2	1	1.5
78295								
78296				5		4	5	4.6666667
78297						1	1	1
78298			3	3				3
78299		4		1	3	1		2.25
78300								
78302							2	2
78305		3		3		3		3
78306		4		4				4
Grand Total	**3.666666667**	**3**	**3.2**	**3**	**2**	**2**	**2.619047619**	

Figure 6

This pivot table shows the average responses for students as to their overall feeling towards web pages per problem set, with 1 being very unhelpful, 5 being very helpful, and technical difficulties being left blank.

According to Figure 7, the difference in overall feeling between the two different web pages for the same problem set was relatively small.

Row Labels	Average of resp
9135	
web2	
9239	**3.666666667**
web1	4
web2	3
9240	**3**
web1	3
9305	**3.2**
web1	3
web2	4
9306	**3**
web1	3
9317	**2**
web1	2.2
web2	1
9319	**2**
web1	1
web2	2.666666667

Grand Total	**2.619047619**

Figure 7
This pivot table shows the overall feeling of students towards each of the two possible web pages per problem set.

According to Figure 8, the average feeling of students toward web page tutoring was between unhelpful and neutral.

Row Labels	**Average of resp**
9135	
9239	3.666666667
9240	3
9305	3.2
9306	3
9317	2
9319	2
Grand Total	**2.619047619**

Figure 8
This pivot table shows the overall feeling towards web tutoring per problem set of all students.

Row Labels	Sum of correct2	Count of user_id	
9135	**1**	**2**	50.00%
Normal	0	1	0.00%
web2	1	1	100.00%
9239	**5**	**8**	62.50%
Normal	2	4	50.00%
web1	2	3	66.67%
web2	1	1	100.00%
9240	**3**	**3**	100.00%
Normal	2	2	100.00%
web1	1	1	100.00%
9305	**2**	**9**	22.22%
Normal	1	2	50.00%
web1	0	4	0.00%
web2	1	3	33.33%
9306	**1**	**1**	100.00%
web1	1	1	100.00%
9317	**8**	**12**	66.67%
Normal	3	5	60.00%
web1	4	5	80.00%
web2	1	2	50.00%
9319	**6**	**8**	75.00%
Normal	2	3	66.67%
web1	2	2	100.00%
web2	2	3	66.67%
Grand Total	**26**	**43**	60.47%

Figure 9

Percentage of the Students who got the second problem right after getting the first problem wrong for each condition.

Four of the problem sets in this study had 16 students do them, while the others had 15, 13, and 8. It is important to note that the students doing each problem set were not unique for each problem set. To analyze the effects of the different types of tutoring, we had to look at the students who got the first problem wrong. On average, less than half of the students for each problem set got the first problem wrong. The students who did get the first problem wrong were still divided into the 3 different conditions, which left less than 4 students per condition to be analyzed.

The percentage of students who got the second problem correct after getting the first one wrong was generally above 50%, with the exception of one problem set which was at 22.20%. This again points to the difficulty of dealing with problem sets of varying difficulty levels.

Web Pages Used

9239
Web1:http://www.youtube.com/watch?v=oG19cFGRFeA
Web2:http://www.mathwarehouse.com/algebra/linear_equation/slope-intercept-form.php

9319
Web1: http://www.algebra-class.com/y-intercept.html
Web2: http://www.mathwarehouse.com/algebra/linear_equation/y-intercept-of-a-line.php

9317
Web1: http://www.math.com/school/subject2/lessons/S2U4L2GL.html
Web2: http://www.algebra-class.com/calculating-slope.html

9135
Web1: http://www.maths.com/algebra/substitution/index.htm
Web2: http://cda.morris.umn.edu/~mcquarrb/BA/Resources/1.8_Substitution_to_Evaluate_Formulas.pdf

9240
Web1: http://www.howcast.com/videos/26129-How-To-Find-the-Slope-Of-a-Line-From-an-Equation
Web2:http://www.mathexpression.com/find-the-slope-of-an-equation-of-a-line.html

9305
Web1: http://cnx.org/content/m18278/latest/
Web2: http://www.studyit.org.nz/subjects/maths/math1/1/subjectcontent/linearpatt.html

9306
Web1: http://id.mind.net/~zona/mmts/functionInstitute/linearFunctions/lsif.html#
Web2: http://www.analyzemath.com/function/linear_functions.html

Who was the winner: comparing normal tutoring to web pages for individual problem sets

This section describes various statistics about each problem set. Specifically, it talks about the distribution of the types of tutoring for each problem set. This also discusses the percentage of students who got the second problem right after getting the first problem wrong. This is an attempt to examine which students learned the most (after getting the first one wrong) with the second controlled problem. This can give us a small insight into which kind of tutoring is the "winner."

Row Labels	Count of user_id
9135	**15**
0	**2**
0	1
Normal	1
1	1
Web2	1
1	**13**
0	2
Normal	1
Web2	1
1	11
Normal	3
web1	4
Web2	4
9239	**16**
0	**8**
0	3
Normal	2
web1	1
1	5
Normal	2
web1	2
Web2	1
1	**8**
0	1
web1	1
1	7
Normal	3
web1	2
Web2	2
9240	**8**
0	**3**
1	3
Normal	2
web1	1
1	**5**
0	3
web1	3
1	2

	web1	1
	Web2	1
9305		**13**
0		**9**
0		7
	Normal	1
	web1	4
	Web2	2
1		2
	Normal	1
	Web2	1
1		**4**
0		1
	Web2	1
1		3
	web1	1
	Web2	2
9306		**16**
0		**1**
1		1
	web1	1
1		**15**
1		15
	Normal	5
	web1	4
	Web2	6
9317		**16**
0		**12**
0		3
	Normal	2
	web1	1
1		8
	Normal	3
	web1	4
	Web2	1
(blank)		1
	Web2	1
1		**4**
0		2
	Normal	1
	Web2	1
1		2
	Normal	1

web1	1
9319	**16**
0	**8**
0	1
Web2	1
1	6
Normal	2
web1	2
Web2	2
(blank)	1
Normal	1
1	**8**
0	2
Normal	1
Web2	1
1	6
Normal	3
Web2	3

This figure shows that very few people got the first problem correct and the second problem incorrect.

For Problem Set 9135:

1 of the 2 students who got the first problem incorrect got the second problem correct.

None of the students who received normal tutoring got the second problem correct.
No students received Web1.
1 student received Web2 and got the second problem correct.

Web2 was the winner.

For Problem Set 9239:

5 of the 8 students who got the first problem incorrect got the second problem correct.

2 of the 4 students who received normal tutoring got the second problem correct.
2 of the 3 students who received Web1 got the second problem correct.
1 student received Web2 and got the second problem correct.

Web2 was the winner.

For Problem Set 9240:

3 of the 3 students who got the first problem incorrect got the second problem correct.

2 of the 2 students who received normal tutoring got the second problem correct.
1 student received Web1 and got the second problem correct.
No students received Web2.

There was no winner for this problem set.

For Problem Set 9305:

2 of the 9 students who got the first problem incorrect got the second problem correct.

1 of the 2 students who received normal tutoring got the second problem correct.
None of the students who received Web1 got the second problem correct.
1 of the 3 students who received Web2 got the second problem correct.

Normal tutoring was the winner.

For Problem Set 9306:

1 student got the first problem incorrect got the second problem correct.

Only one student received tutoring for the second problem, so there is no winner.

For Problem Set 9317:

8 of the 12 students who got the first problem incorrect got the second problem correct.

3 of the 5 students who received normal tutoring got the second problem correct.
4 of the 5 students who received Web1 got the second problem correct.
1 of the 2 students who received Web2 got the second problem correct.

Web1 was the winner.

For Problem Set 9319:

6 of the 8 students who got the first problem incorrect got the second problem correct.

2 of the 3 students who received normal tutoring got the second problem correct.
2 of the 2 students who received Web1 got the second problem correct.
2 of the 3 students who received Web2 got the second problem correct.

Web1 was the winner.

Conclusion

One of the things our study hints at is that while students master problem sets with web tutoring faster than problem sets with normal tutoring, it takes more problems to actually master the problem set. Based on the generally non-positive feeling toward webpages by students, they could simply be learning by trial and error, rather than from the webpages. However, there is no evidence to support this claim. Because of the asymmetrical nature of this study, the total number of students in the web tutoring group was twice the number of students in the normal tutoring group, due to the combination of the web1 and web2 groups. Because of this fact, there may have not been enough data to effectively compare the two types of groups. There is also the question of which is better: mastering a problem set faster with more problems, or mastering a problem set slower with less problems. While the web tutoring students may have mastered a problem set faster, we have no way of knowing well they retained that knowledge after mastering.

The two different web pages for each problem set with web tutoring received generally similar results in how students felt about them. It would seem that the usefulness of web pages for a problem set's tutoring greatly depends on the nature of the problem set and its associated skill or skills. That is, some skills are more suited for web page tutoring than others.

References

1) Razzaq, L., & Heffernan, N. (2010). Can We Use Educational Content from the Web? International Conference on Intelligent Tutoring Systems.

Appendix

1) Writing Linear Equations from slope and y-intercepts
    a) Document Summary
    b) Sample Problem with Tutoring

2) Finding Slope in an Equation
    a) Document Summary
    b) Sample Problem with Tutoring

3) Finding y-intercept from Linear Equation
    a) Document Summary
    b) Sample Problem with Tutoring

4) Substitution
    a) Document Summary
    b) Sample Problem with Tutoring

5) Finding Slope in Situation
    a) Document Summary
    b) Sample Problem with Tutoring

6) Finding y-intercept from Linear Situation
    a) Document Summary
    b) Sample Problem with Tutoring

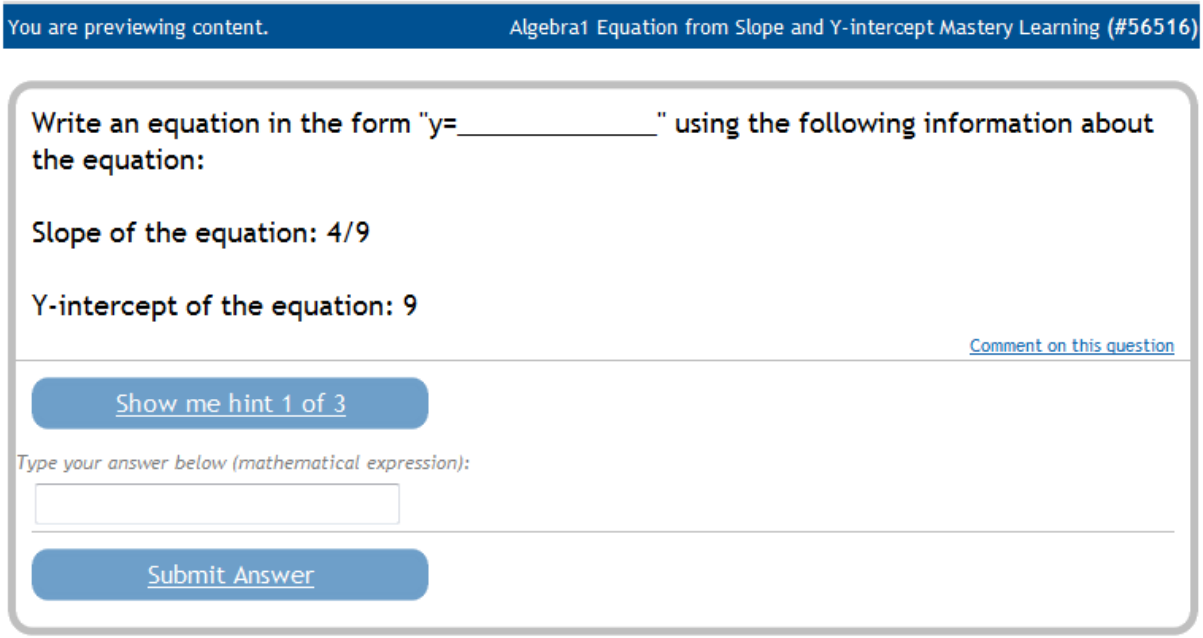
7) Finding Equation from Linear Situation
    a) Document Summary
    b) Sample Problem with Tutoring

Skill	Class
Writing Linear Equations from slope and y-intercepts	Algebra 1

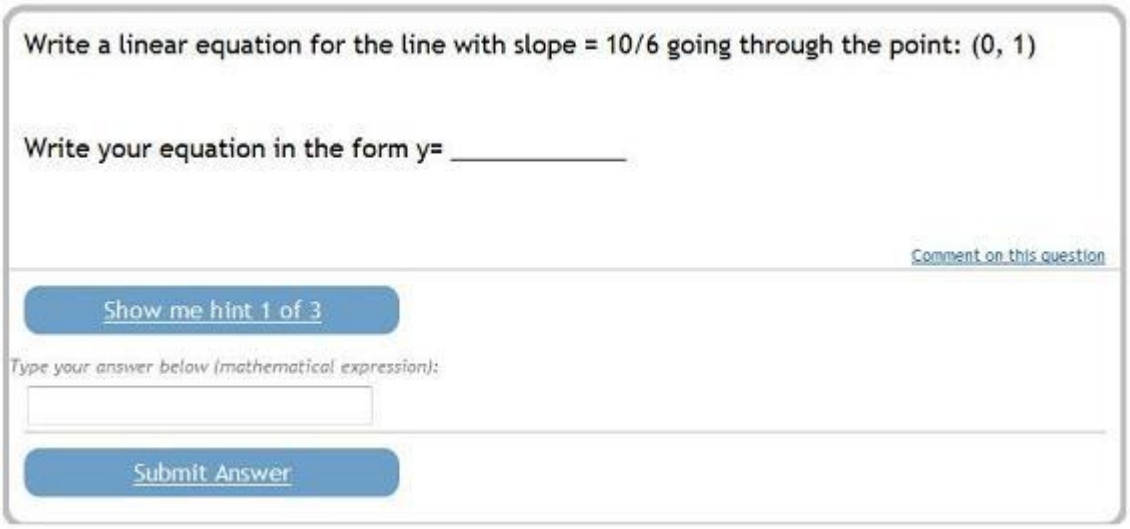
Mastery Problem Set #8780	Number of Templates 6
Number to Master 3 in-a-row	Number of Attempts 10 First Day, 10 Subsequent Days

Templates

- 56516



  - The slope is positive, non-zero
  - The y-intercept is positive, non-zero, and given as a single integer
- 56784
  - The slope is negative
  - The y-intercept is positive, non-zero, and given as a single integer
- 56786
  - The slope is zero
  - The y-intercept is positive, non-zero, and given as a single integer



- 57704
  - The slope is positive, non-zero
  - The y-intercept is positive, non-zero, and given as a point
- 57703
  - The slope is negative
  - The y-intercept is positive, non-zero, and given as a point
- 57702
  - The slope is zero
  - The y-intercept is positive, non-zero, and given as a point

Dan Mitchell

1) Assistment #56516 "56516 - Algebra1 Equation from Slope and Y-intercept Mastery Learning"
Write an equation in the form "y=_____" using the following information about the equation:

Slope of the equation: %v{yslope}/%v{xslope}

Y-intercept of the equation: %v{yintercept}

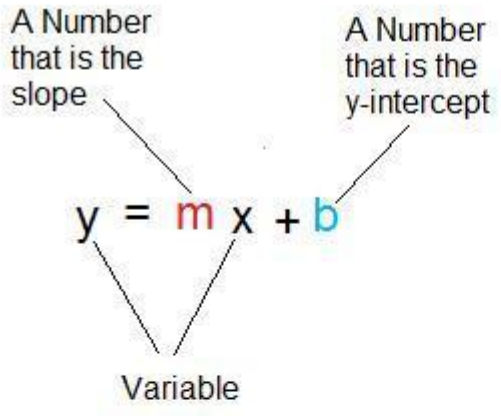
Algebra:

✓ %v{yslope}/%v{xslope}x + %v{yintercept}

✓ %v{yslope/xslope}x+%v{yintercept}

Hints:

☐ Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = %v{yslope}/%v{xslope} because the slope is %v{yslope}/%v{xslope}

We know that b = %v{yintercept} because the y-intercept is %v{yintercept}
 The equation is y = %v{yslope}/%v{xslope}x +
%v{yintercept}
Type in %v{yslope}/%v{xslope}x + %v{yintercept}

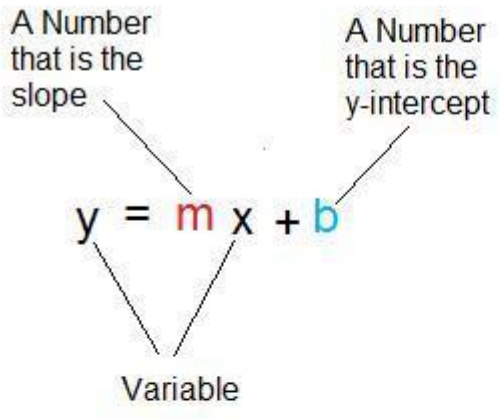
---

2) Assistment #64420 "64420 - Algebra1 Equation from Slope and Y-intercept Mastery Learning"
Write an equation in the form "y=_____" using the following information about the equation:

Slope of the equation: 10/3

Y-intercept of the equation: 8
Algebra:
✓ 10/3x + 8
Hints:

 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = 10/3 because the slope is 10/3

We know that b = 8 because the y-intercept is 8
 The equation is y = 10/3x +
8
Type in 10/3x + 8

---

3) Assistment #56784 "56784 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 2"
Write an equation in the form "y=_____" using the following information about the equation:

Slope of the equation: %v{yslope}/%v{xslope}

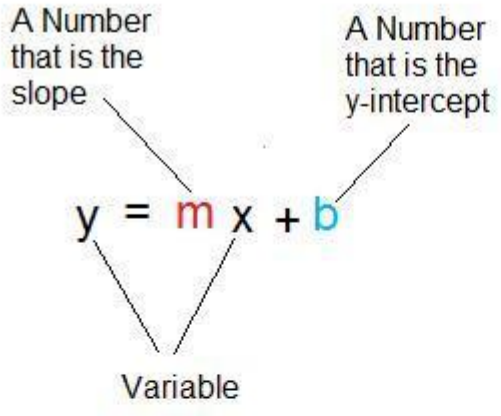
Y-intercept of the equation: %v{yintercept}

Algebra:

✓ %v{yslope}/%v{xslope}x + %v{yintercept}

Hints:

 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = %v{yslope}/%v{xslope} because the slope is %v{yslope}/%v{xslope}

We know that b = %v{yintercept} because the y-intercept is %v{yintercept}

 The equation is y = %v{yslope}/%v{xslope}x + %v{yintercept}

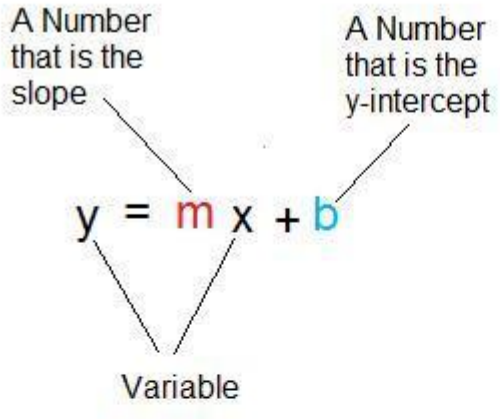
Type in %v{yslope}/%v{xslope}x + %v{yintercept}

4) Assistment #64460 "64460 - 56786 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 3"
Write an equation in the form "y=_____" using the following information about the equation:

Slope of the equation: 0

Y-intercept of the equation: 7

Algebra:
✓ 7
Hints:
 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = 0 because the slope is 0

We know that b = 7 because the y-intercept is 7

- The slope is 0, so the equation is y =
7

Type in 7

---

5) Assistment #56786 "56786 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 3"
Write an equation in the form "y=_____" using the following information about the equation:

Slope of the equation: 0

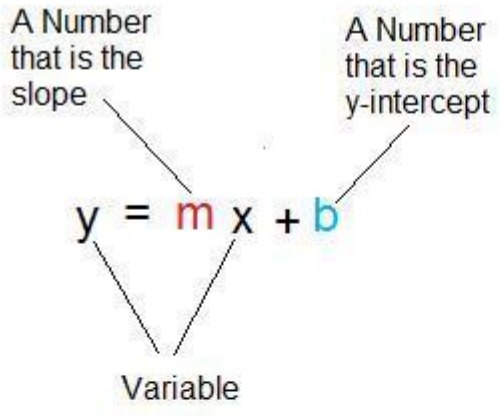
Y-intercept of the equation: %v{yintercept}

Algebra:

✓ %v{yintercept}

Hints:

- Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = 0 because the slope is 0

We know that b = %v{yintercept} because the y-intercept is %v{yintercept}

 The slope is 0, so the equation is y = %v{yintercept}
Type in %v{yintercept}

---

6) Assistment #64396 "64396 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 2"
Write an equation in the form "y=_____" using the following information about the equation:

Slope of the equation: -2/1

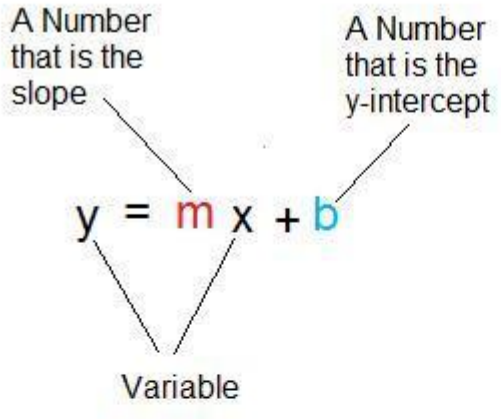
Y-intercept of the equation: 8

Algebra:

✓ -2/1x + 8

Hints:

 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = -2/1 because the slope is -2/1

We know that b = 8 because the y-intercept is 8

 The equation is y = -2/1x + 8

Type in -2/1x + 8

7) Assistment #57704 "57704 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 6"
Write a linear equation for the line with slope = %v{yslope}/%v{xslope} going through the point: (0, %v{yintercept})

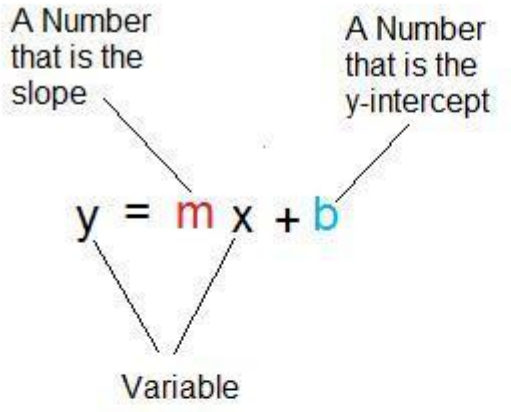
Write your equation in the form y= _____

Algebra:

✓ %v{yslope}/%v{xslope}x + %v{yintercept}

Hints:

- Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = %v{yslope}/%v{xslope} because the slope is %v{yslope}/%v{xslope}
We know that b = %v{yintercept} because (0, %v{yintercept}) is on the y-axis so it is the y-intercept

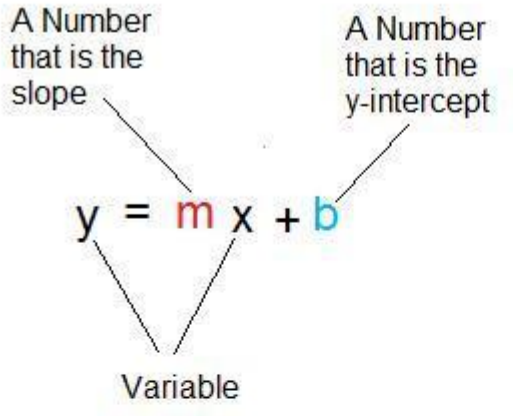
 The equation is y = %v{yslope}/%v{xslope}x +
%v{yintercept}
Type in %v{yslope}/%v{xslope}x + %v{yintercept}

---

8) Assistment #64435 "64435 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 6"
Write a linear equation for the line with slope = 10/9 going through the point: (0, 4)

Write your equation in the form y= _____

Algebra:
✓ 10/9x + 4
Hints:
 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = 10/9 because the slope is 10/9
We know that b = 4 because (0, 4) is on the y-axis so it is the y-intercept

 The equation is y = 10/9x +
4
Type in 10/9x + 4

---

9) Assistment #57703 "57703 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 5"
Write a linear equation for the line with slope = %v{yslope}/%v{xslope} going through the point: (0, %v{yintercept})

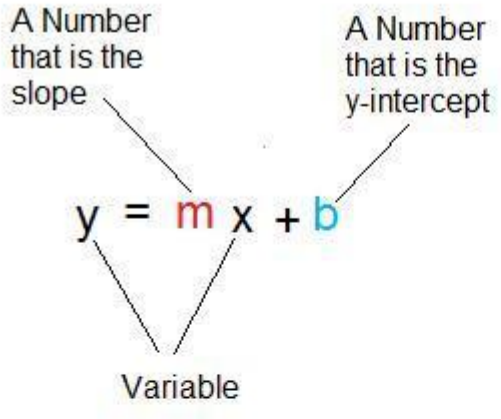
Write your equation in the form y= _____

Algebra:

✓ %v{yslope}/%v{xslope}x + %v{yintercept}

Hints:

 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = %v{yslope}/%v{xslope} because the slope is %v{yslope}/%v{xslope}
We know that b = %v{yintercept} because (0, %v{yintercept}) is on the y-axis so it is the y-intercept

 The equation is y = %v{yslope}/%v{xslope}x +
%v{yintercept}
Type in %v{yslope}/%v{xslope}x + %v{yintercept}

Write a linear equation for the line with slope = -3/8 going through the point: (0, 8)

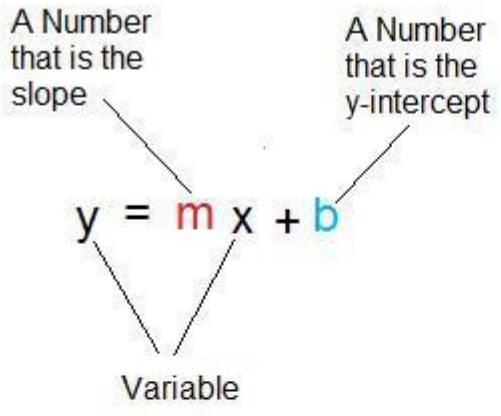
Write your equation in the form y= _____

Algebra:

✓ -3/8x + 8

Hints:

- Linear equations can be written in this form where m is the slope and b is the y-intercept.



- We know that m = -3/8 because the slope is -3/8

We know that b = 8 because (0, 8) is on the y-axis so it is the y-intercept

- The equation is y = -3/8x + 8

Type in -3/8x + 8

11) Assistment #57702 "57702 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 4"
Write a linear equation for the line with slope = 0 going through the point: (0, %v{yintercept})

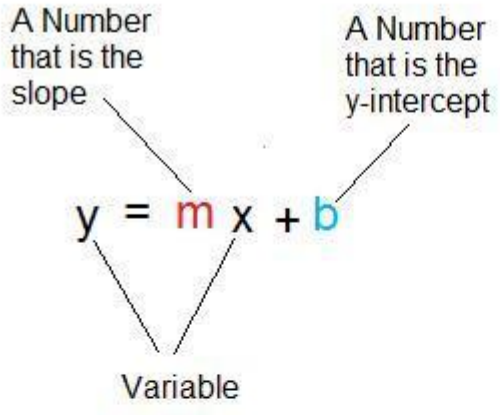
Write your equation in the form y = _____

Algebra:

✓ %v{yintercept}

Hints:

- Linear equations can be written in this form where m is the slope and b is the y-intercept.



- We know that m = 0 because the slope is 0

We know that b = %v{yintercept} because (0, %v{yintercept}) is on the y-axis so it is the y-intercept

 The slope is 0, so the equation is y = %v{yintercept}
Type in %v{yintercept}

---

12) Assistment #64371 "64371 - 57702 - Algebra1 Equation from Slope and Y-intercept Mastery Learning 4"

Write a linear equation for the line with slope = 0 going through the point: (0, 3)

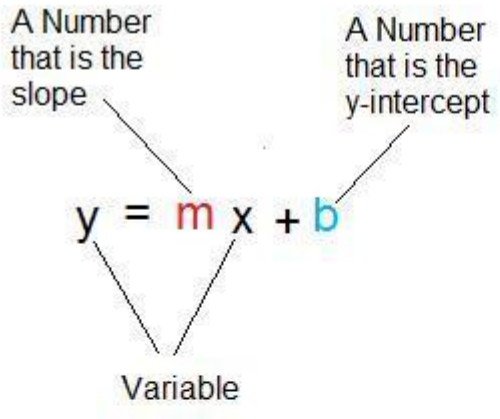
Write your equation in the form y= _____

Algebra:

✓ 3

Hints:

 Linear equations can be written in this form where m is the slope and b is the y-intercept.



 We know that m = 0 because the slope is 0

We know that b = 3 because (0, 3) is on the y-axis so it is the y-intercept

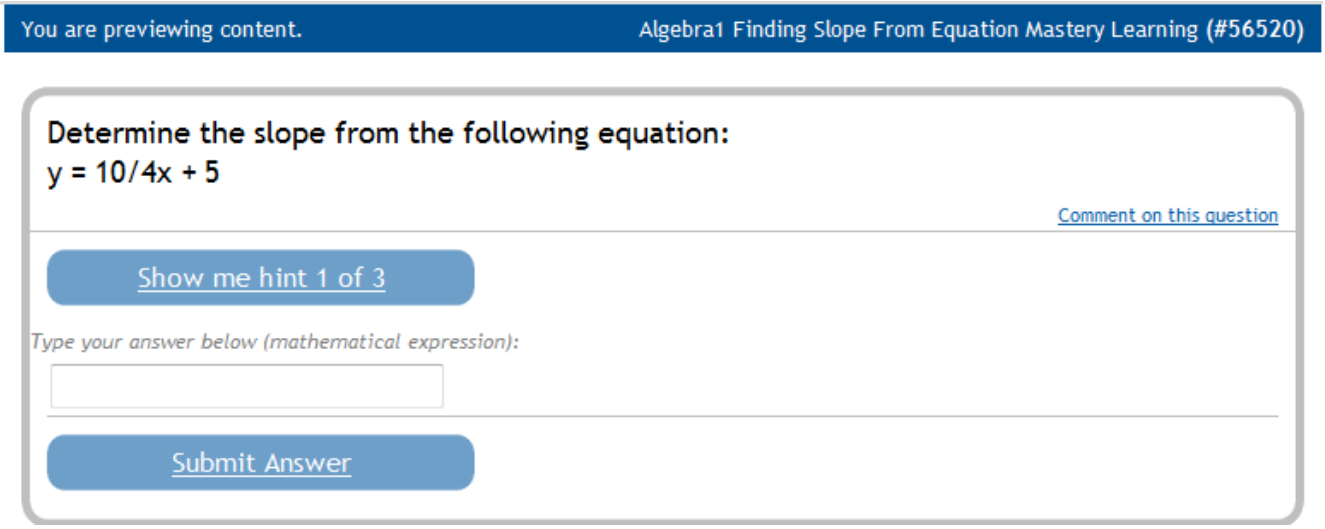
 The slope is 0, so the equation is y =
3
Type in 3

Skill	Class
Finding slope in an equation	Algebra 1

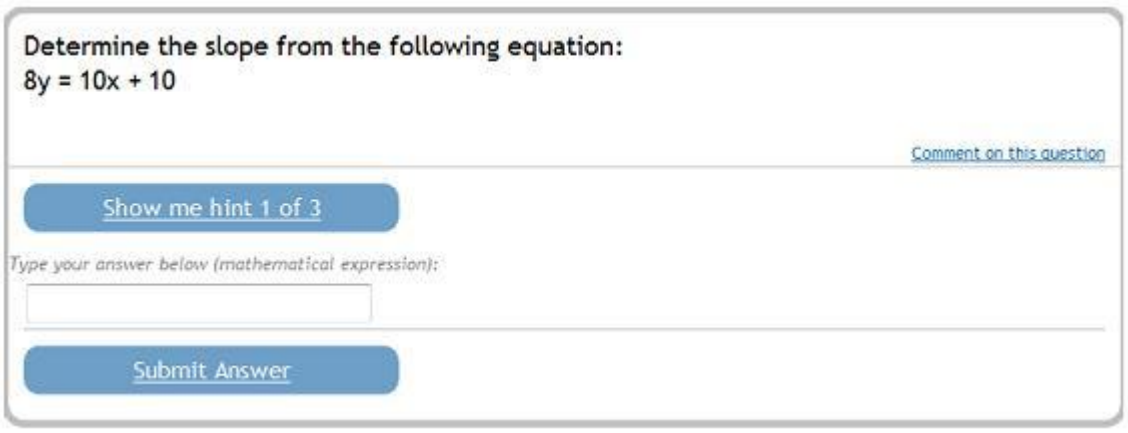
Mastery Problem Set #8949	Number of Templates 10
Number to Master 4 in-a-row	Number of Attempts 10 First Day, 10 Subsequent Days

Templates

- 56520

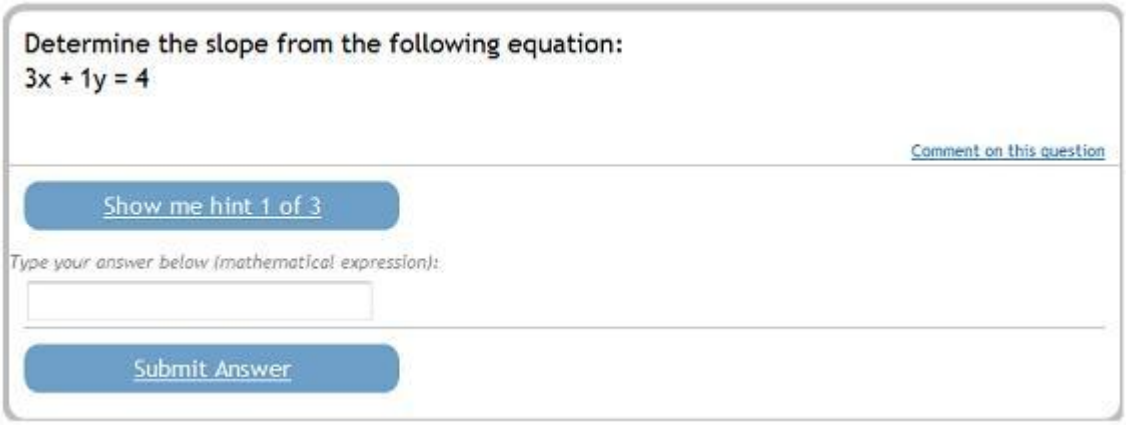


  - The slope is positive, non-zero
  - The equation is given in slope-intercept form
- 57935
  - The slope is negative
  - The equation is given in slope-intercept form
- 57936
  - The slope is zero
  - The equation is given in slope-intercept form
- 57937

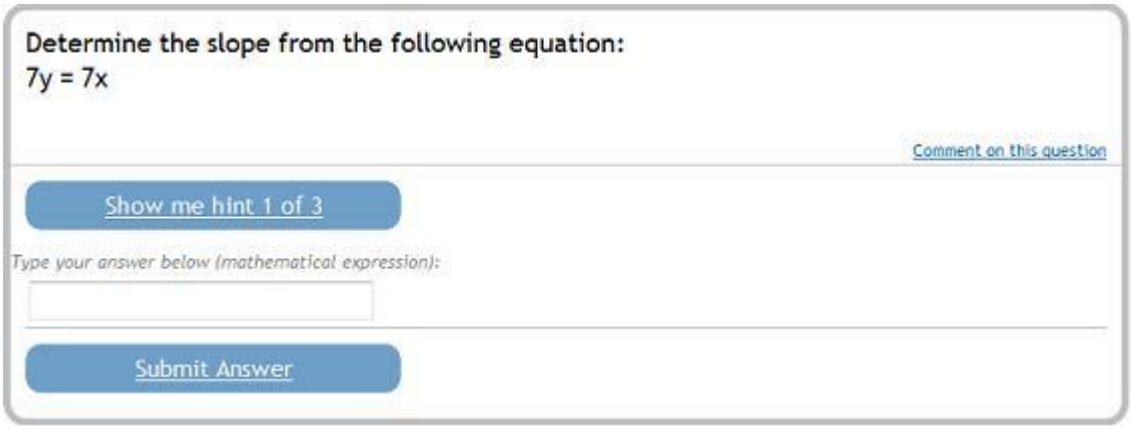


  - The slope is positive, non-zero
  - The equation is given in the form 4y = 3x+7

- 57938
  - The slope is negative
  - The equation is given in the form 4y = 3x+7
- 57939
  - The slope is zero
  - The equation is given in the form 4y = 3x+7
- 60532



  - The slope is negative
  - The equation is given in standard form, 4x + 2y = 7
- 60533
  - The slope is positive
  - The equation is given in standard form, 4x + 2y = 7
- 60534



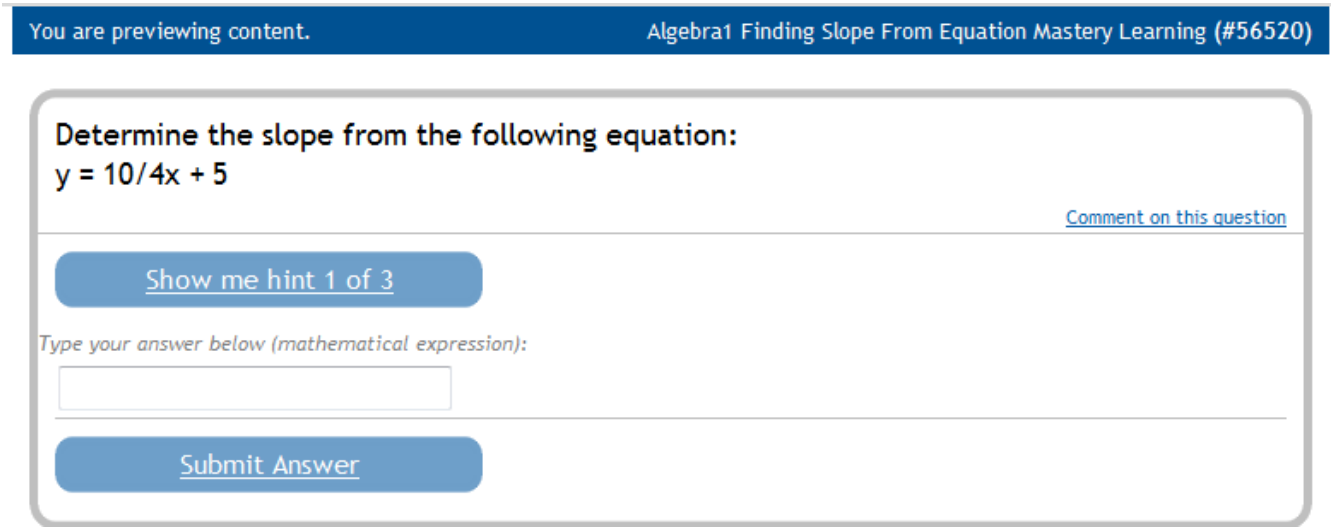
  - The slope is 1
  - The equation is given in the form 2y = 2x

Level 1

Mastery Problem Set	Number of Templates
# 8950	3
Number to Master	**Number of Attempts**
3 in-a-row	10 First Day, 10 Subsequent Days

Templates

- 56520



  - The slope is positive, non-zero
  - The equation is given in slope-intercept form
- 57935
  - The slope is negative
  - The equation is given in slope-intercept form
- 57936
  - The slope is zero
  - The equation is given in slope-intercept form

Dan Mitchell

1) Assistment #56520 "56520 - Algebra1 Finding Slope From Equation Mastery Learning"

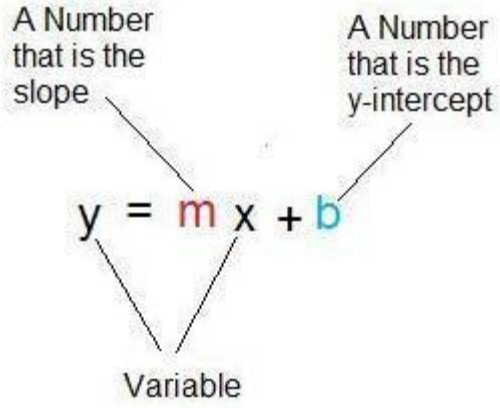
Determine the slope from the following equation:
y = %v{yslope}/%v{xslope}x + %v{yintercept}

Algebra:

✓ %v{yslope}/%v{xslope}

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 In our problem we have:
y = %v{yslope}/%v{xslope}x + %v{yintercept}
 The slope is the coeficient of x, or %v{yslope}/%v{xslope}. Type %v{yslope}/%v{xslope}.

---

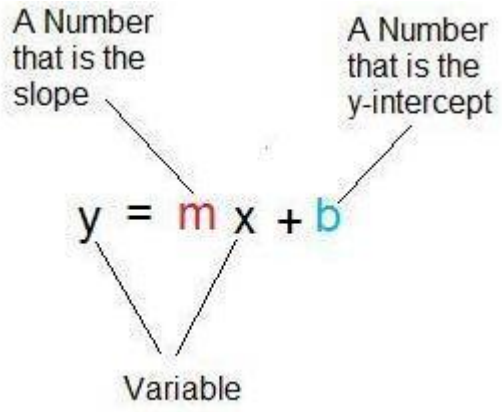
2) Assistment #69771 "69771 - 57935 - Algebra1 Finding Slope From Equation Mastery Learning 2"
Determine the slope from the following equation:
y = -7/8x + 3

Algebra:

✓ -7/8

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



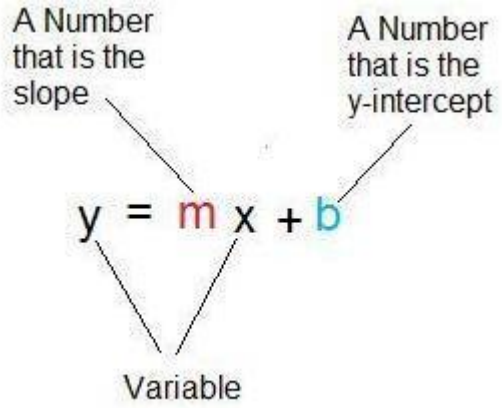
 In our problem we have:
y = -7/8x + 3

 The slope is the coeficient of x, or -7/8. Type -7/8.

---

3) Assistment #57936 "57936 - Algebra1 Finding Slope From Equation Mastery Learning 3"
Determine the slope from the following equation:
y = %v{yintercept}

Algebra:
✓ 0
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



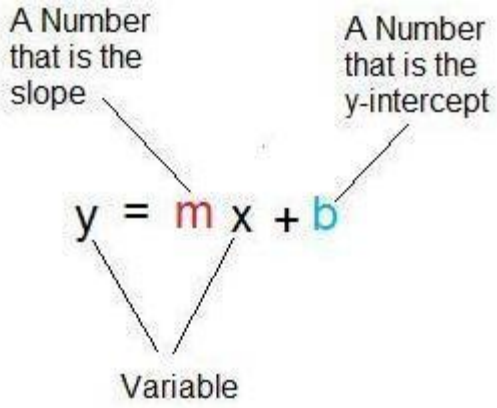
 In our problem we have:

y = 0x + %v{yintercept}
We added in the x to this equation so that you could see it. 0x=0

 The slope is the coeficient of x, or
0.
Type in 0.

---

4) Assistment #69760 "69760 - 56520 - Algebra1 Finding Slope From Equation Mastery Learning"
Determine the slope from the following equation:
y = 10/8x + 2
Algebra:
✓ 10/8
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:

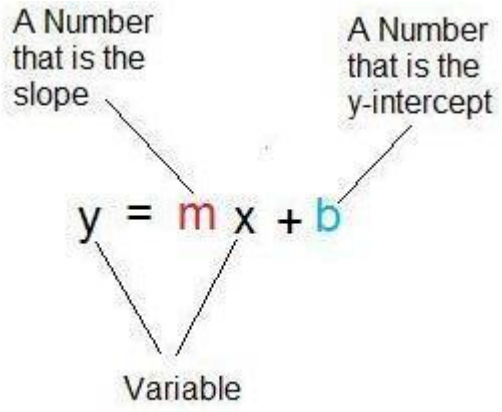


 In our problem we have:
y = 10/8x + 2
 The slope is the coeficient of x, or 10/8. Type
10/8.

---

5) Assistment #57935 "57935 - Algebra1 Finding Slope From Equation Mastery Learning 2"
Determine the slope from the following equation:
y = %v{yslope}/%v{xslope}x + %v{yintercept}

Algebra:
✓ %v{yslope}/%v{xslope}
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



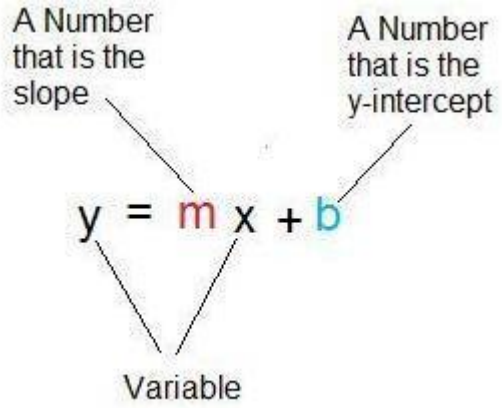
 In our problem we have:
y = %v{yslope}/%v{xslope}x + %v{yintercept}

 The slope is the coeficient of x, or %v{yslope}/%v{xslope}. Type %v{yslope}/%v{xslope}.

---

6) Assistment #69787 "69787 - Algebra1 Finding Slope From Equation Mastery Learning 3"
Determine the slope from the following equation:
y = 6

Algebra:
✓ 0
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 In our problem we have:

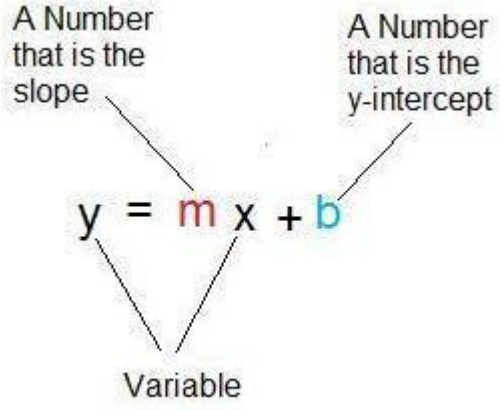
y = 0x + 6
We added in the x to this equation so that you could see it. 0x=0

 The slope is the coeficient of x, or
0.
Type in 0.

---

7) Assistment #57937 "57937 - Algebra1 Finding Slope From Equation Mastery Learning 4"
Determine the slope from the following equation:
%v{xslope}y = %v{yslope}x + %v{yintercept}

Algebra:
✓ %v{yslope}/%v{xslope}
Hints:
 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by %v{xslope}.

$$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yslope\}x + \%v\{yintercept\}}{\%v\{xslope\}}$$

y = %v{yslope}/%v{xslope}x + %v{yintercept}/%v{xslope}
 The slope is the coeficient of x, or %v{yslope}/%v{xslope}. Type %v{yslope}/%v{xslope}.

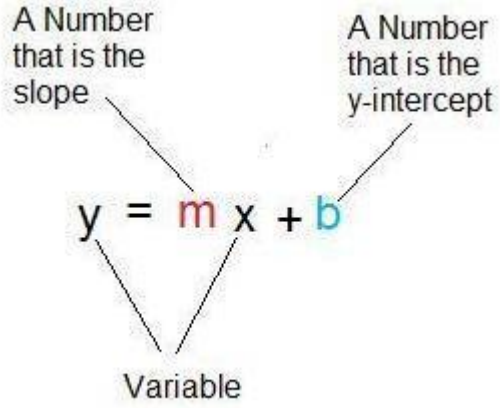
---

8) Assistment #69727 "69727 - 57937 - Algebra1 Finding Slope From Equation Mastery Learning 4"
Determine the slope from the following equation:
6y = 5x + 2

Algebra:
✓ 5/6

Hints:

 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by 6.

$\frac{6y}{6} = \frac{5x + 2}{6}$

y = 5/6x + 2/6

 The slope is the coeficient of x, or 5/6. Type 5/6.

---

9) Assistment #57938 "57938 - Algebra1 Finding Slope From Equation Mastery Learning 5"

Determine the slope from the following equation:

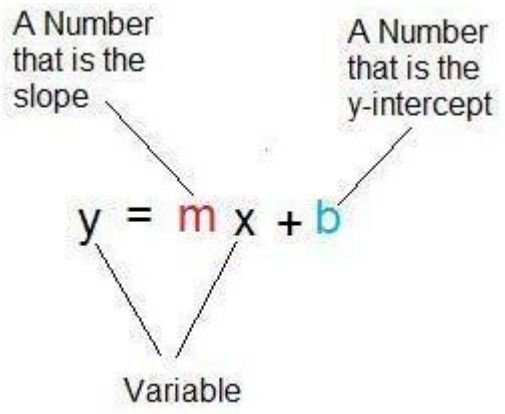
%v{xslope}y = %v{yslope}x + %v{yintercept}

Algebra:

✓ %v{yslope}/%v{xslope}

Hints:

 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by %v{xslope}.

$$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yslope\}x + \%v\{yintercept\}}{\%v\{xslope\}}$$

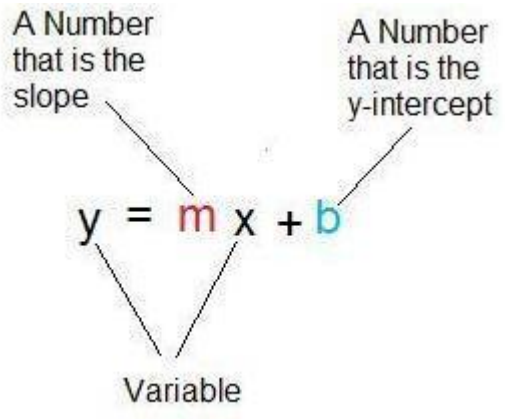
y = %v{yslope}/%v{xslope}x + %v{yintercept}/%v{xslope}

 The slope is the coeficient of x, or %v{yslope}/%v{xslope}. Type %v{yslope}/%v{xslope}.

---

10) Assistment #93052 "93052 - Algebra1 Finding Slope From Equation Mastery Learning 5"
Determine the slope from the following equation:
-8y = 8x + 6

Algebra:
✓ 8/-8
Hints:
 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by -8.

$\frac{-8y}{-8} = \frac{8x + 6}{-8}$

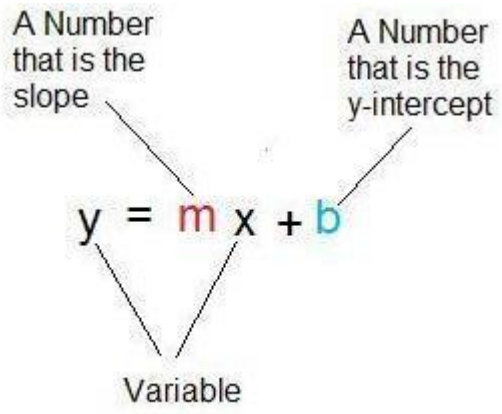
y = 8/-8x + 6/-8

 The slope is the coeficient of x, or 8/-8. Type 8/-8.

---

11) Assistment #57939 "57939 - Algebra1 Finding Slope From Equation Mastery Learning 6"
Determine the slope from the following equation:
%v{xslope}y = %v{yintercept}

Algebra:
✓ 0
Hints:
 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by %v{xslope}. The equation should now look like this:

$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yintercept\}}{\%v\{xslope\}}$

y = 0x + %v{yintercept}/%v{xslope}

We added in the x so that you can see it. 0x=0

 The slope is the coeficient of x, or 0.

Type in 0.

---

12) Assistment #69749 "69749 - 57939 - Algebra1 Finding Slope From Equation Mastery Learning 6"

Determine the slope from the following equation:

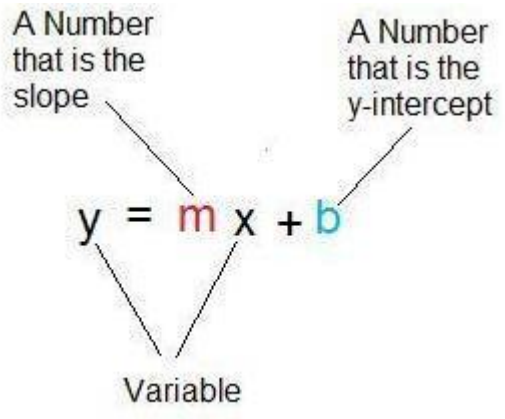
5y = 1

Algebra:

✓ 0

Hints:

 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by 5. The equation should now look like this:

$\frac{5y}{5} = \frac{1}{5}$

y = 0x + 1/5

We added in the x so that you can see it. 0x=0

 The slope is the coeficient of x, or 0.

Type in 0.

---

13) Assistment #69803 "69803 - Algebra1 Finding Slope From Equation Mastery Learning 7"

Determine the slope from the following equation:

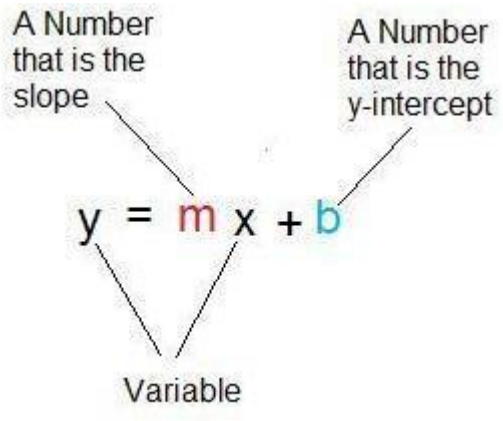
3x + 2y = 9

Algebra:

✓ -3/2

Hints:

 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



First, you must subtract 3x from both sides, giving you:
2y = 9 - 3x

Then, divide each side by 2.

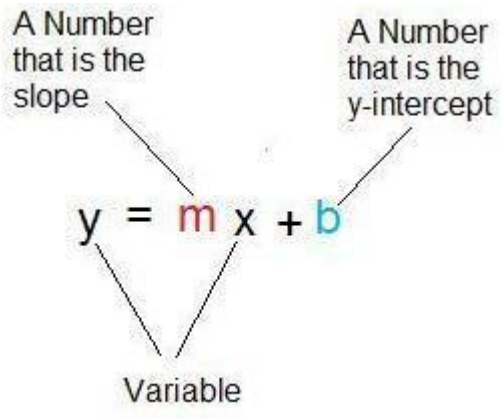
$\frac{2y}{2} = \frac{9 - 3x}{2}$

y = 9/2 - 3/2x
The slope is the coeficient of x, or -3/2. Type -3/2.

---

14) Assistment #60533 "60533 - Algebra1 Finding Slope From Equation Mastery Learning 8"
Determine the slope from the following equation:
%v{xslope}y - %v{yslope}x= %v{yintercept}

Algebra:
✓ %v{yslope}/%v{xslope}
Hints:
In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 First, you must subtract %v{yslope}x from both sides, giving you:
%v{xslope}y = %v{yintercept} + %v{yslope}x

Then, divide each side by %v{xslope}.

$$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yintercept\} + \%v\{yslope\}x}{\%v\{xslope\}}$$

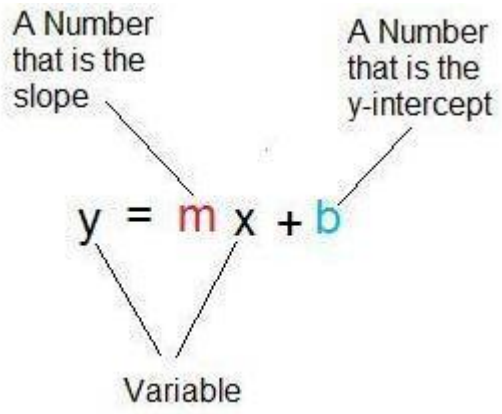
y = %v{yintercept}/%v{xslope} + %v{yslope}/%v{xslope}x

 The slope is the coeficient of x, or %v{yslope}/%v{xslope}. Type %v{yslope}/%v{xslope}.

---

15) Assistment #69716 "69716 - Algebra1 Finding Slope From Equation Mastery Learning 8"
Determine the slope from the following equation:
7y - 5x= 5

Algebra:
✓ 5/7
Hints:
 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 First, you must subtract 5x from both sides, giving you:
$7y = 5 + 5x$

Then, divide each side by 7.

$$\frac{7y}{7} = \frac{5 + 5x}{7}$$

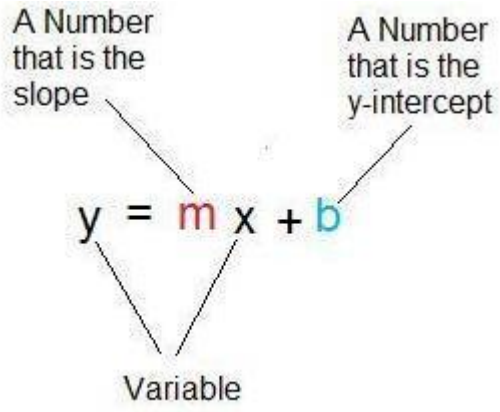
$y = 5/7 + 5/7x$

 The slope is the coeficient of x, or 5/7. Type 5/7.

---

16) Assistment #60534 "60534 - Algebra1 Finding Slope From Equation Mastery Learning 9"
Determine the slope from the following equation:
%v{var}y = %v{var}x

Algebra:
✓ 1
Hints:
 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by %v{var}.

$\frac{\%v\{var\}y}{\%v\{var\}} = \frac{\%v\{var\}x}{\%v\{var\}}$

y=x

 The slope is the coeficient of x, or in this case, 1. Type 1.

---

17) Assistment #69738 "69738 - Algebra1 Finding Slope From Equation Mastery Learning 9"

Determine the slope from the following equation:

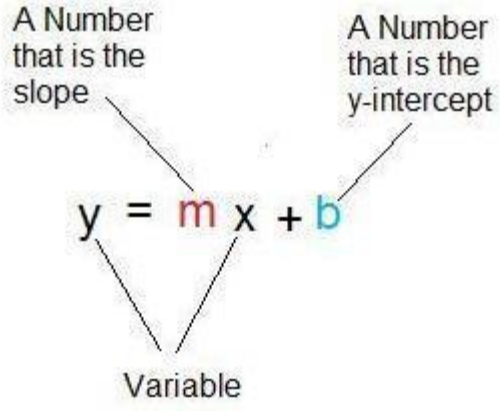
10y = 10x

Algebra:

✓ 1

Hints:

 In this case, you must first solve for y so that you can read the slope. You should try to get it into slope-intercept form:



 To do this, divide each side by 10.

$\frac{10y}{10} = \frac{10x}{10}$

y=x

 The slope is the coeficient of x, or in this case, 1. Type 1.

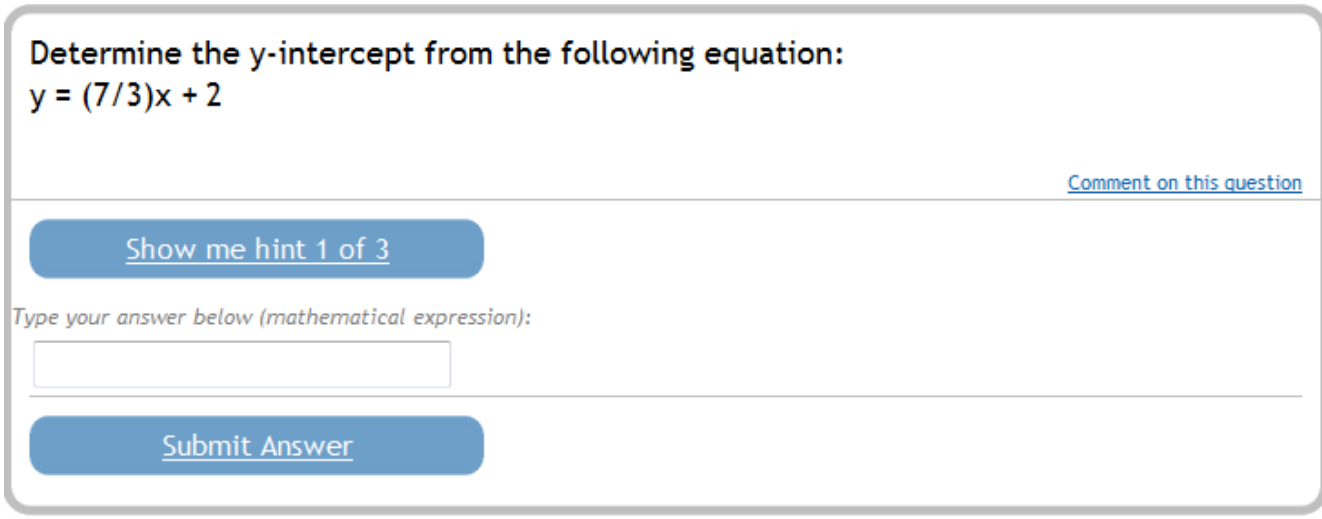
Skill	Class
Finding y-intercept from Linear Equation	Algebra 1

Mastery Problem Set	Number of Templates
#9180	10

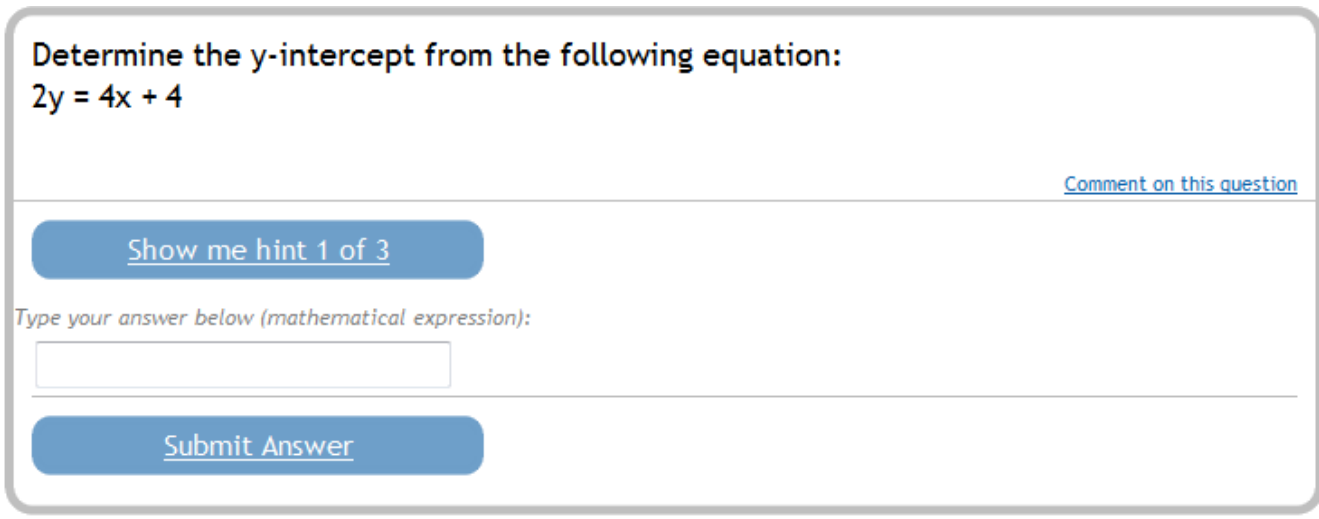
Number to Master	Number of Attempts
4 in-a-row	10 First Day, 10 Subsequent Days

Templates

- 61825

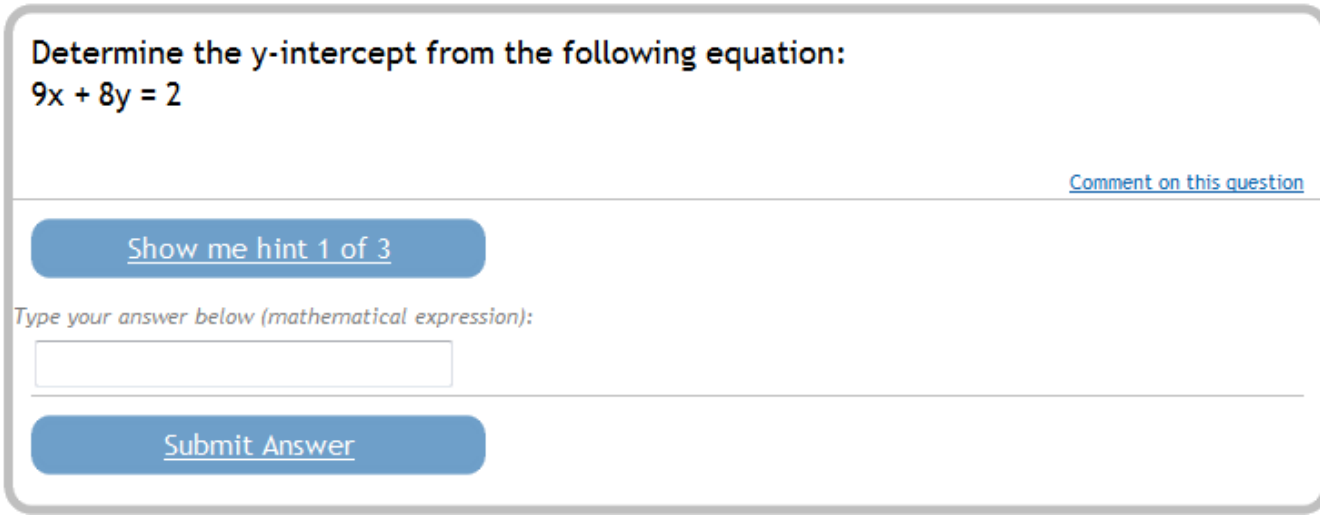


  - The slope is positive, non-zero
  - The equation is given in slope-intercept form
- 61826
  - The slope is negative
  - The equation is given in slope-intercept form
- 61827
  - The slope is zero
  - The equation is given in slope-intercept form
- 61828



  - The slope is positive, non-zero
  - The equation is given in the form 4y = 3x+7
- 61829
  - The slope is negative
  - The equation is given in the form 4y = 3x+7

- 61830
  - The slope is zero
  - The equation is given in the form 4y = 3x+7
- 61831



  - The slope is negative
  - The equation is given in standard form, 4x + 2y = 7
- 61832
  - The slope is positive
  - The equation is given in standard form, 4x + 2y = 7

Level 1

Mastery Problem Set	Number of Templates
# 9181	3
Number to Master	**Number of Attempts**
3 in-a-row	10 First Day, 10 Subsequent Days

Templates

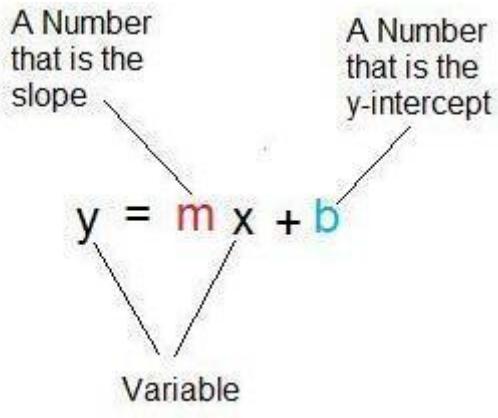
- 61825
  - The slope is positive, non-zero
  - The equation is given in slope-intercept form
- 61826
  - The slope is negative
  - The equation is given in slope-intercept form
- 61827
  - The slope is zero

- The equation is given in slope-intercept form

Dan Mitchell

1) Assistment #61825 "61825 - Algebra1 Finding Y-intercept from Linear Equation"
Determine the y-intercept from the following equation:
y = (%v{yslope}/%v{xslope})x + %v{yintercept}

Algebra:
✓ %v{yintercept}
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



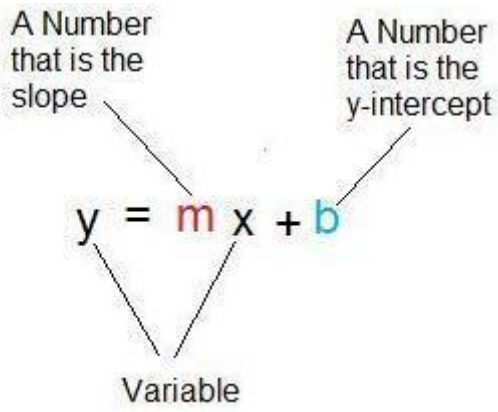
 In our problem we have:
y = (%v{yslope}/%v{xslope})x + %v{yintercept}

 The y-intercept is the term without the variable, or %v{yintercept}. Type %v{yintercept}.

---

2) Assistment #73939 "73939 - Algebra1 Finding Y-intercept from Linear Equation"
Determine the y-intercept from the following equation:
y = (3/5)x + 2

Algebra:
✓ 2
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



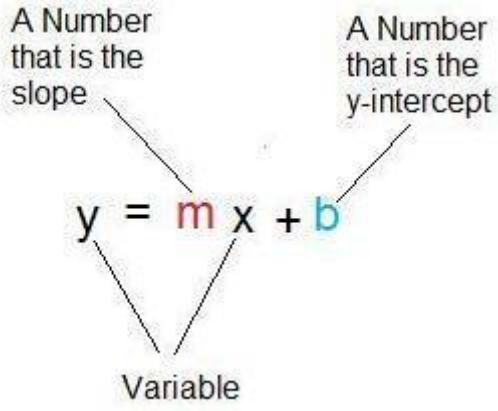
 In our problem we have:
y = (3/5)x + 2

 The y-intercept is the term without the variable, or 2. Type 2.

---

3) Assistment #61827 "61827 - Algebra1 Finding Y-intercept from Linear Equation 3"
Determine the y-intercept from the following equation:
y = (%v{yslope}/%v{xslope})x

Algebra:
✓ 0
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 In our problem we have:

y = (%v{yslope}/%v{xslope})x + 0
We added in the 0 to this equation so that you could see it.

 The y-intercept is the term without the variable, or 0. Type 0.

4) Assistment #73969 "73969 - 61826 - Algebra1 Finding Y-intercept from Linear Equation 2"

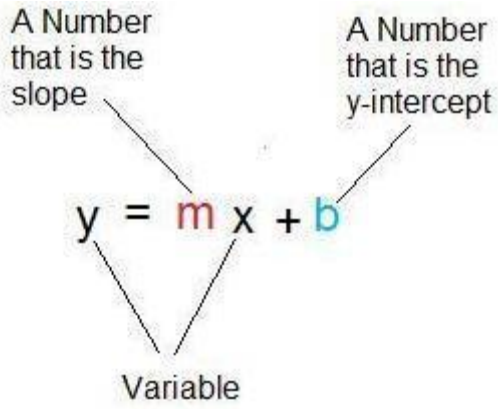
Determine the y-intercept from the following equation:
y = (5/2)x - 5

Algebra:

✓ -5

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 In our problem we have:
y = (5/2)x + (-5)

 The y-intercept is the term without the variable, or -5. Type -5.

---

5) Assistment #93062 "93062 - 61827 - Algebra1 Finding Y-intercept from Linear Equation 3"

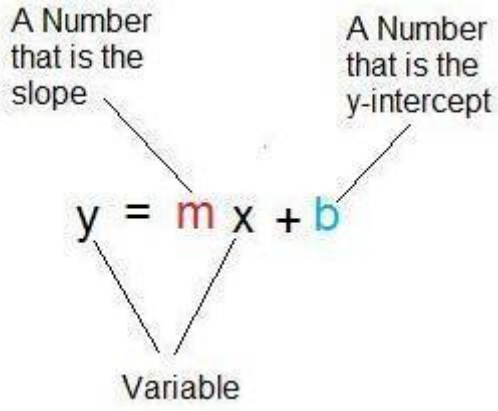
Determine the y-intercept from the following equation:
y = (10/10)x

Algebra:

✓ 0

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 In our problem we have:

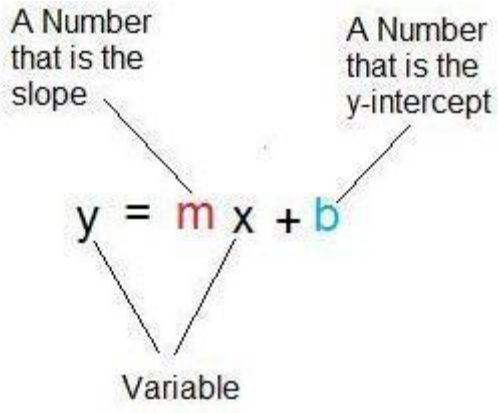
y = (10/10)x + 0
We added in the 0 to this equation so that you could see it.

 The y-intercept is the term without the variable, or 0. Type 0.

---

6) Assistment #61826 "61826 - Algebra1 Finding Y-intercept from Linear Equation 2"
Determine the y-intercept from the following equation:
y = (%v{yslope}/%v{xslope})x - %v{yintercept}

Algebra:
✓ -%v{yintercept}
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:

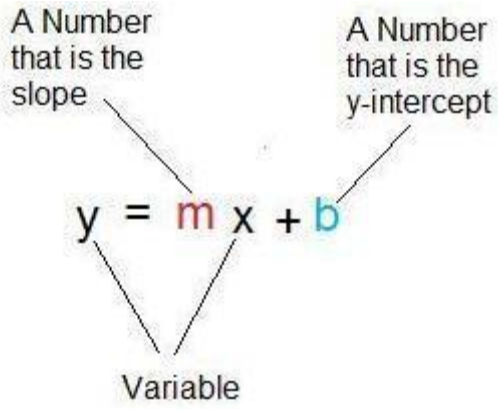


 In our problem we have:
y = (%v{yslope}/%v{xslope})x + (-%v{yintercept})

 The y-intercept is the term without the variable, or -%v{yintercept}. Type -%v{yintercept}.

7) Assistment #61828 "61828 - Algebra1 Finding Y-intercept from Linear Equation 4"
Determine the y-intercept from the following equation:
%v{xslope}y = %v{yslope}x + %v{yintercept}

Algebra:
✓ %v{yintercept}/%v{xslope}
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 To do this, divide each side by %v{xslope}.

$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yslope\}x + \%v\{yintercept\}}{\%v\{xslope\}}$

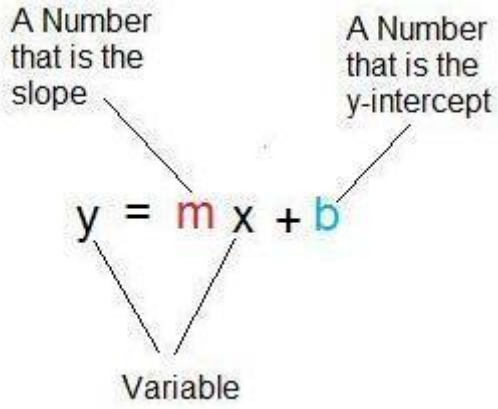
y = (%v{yslope}/%v{xslope})x + %v{yintercept}/%v{xslope}

 The y-intercept is the term without the variable, or %v{yintercept}/%v{xslope}. Type %v{yintercept}/%v{xslope}.

---

8) Assistment #93072 "93072 - 61828 - Algebra1 Finding Y-intercept from Linear Equation 4"
Determine the y-intercept from the following equation:
7y = 7x + 2

Algebra:
✓ 2/7
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 To do this, divide each side by 7.

$\frac{7y}{7} = \frac{7x + 2}{7}$

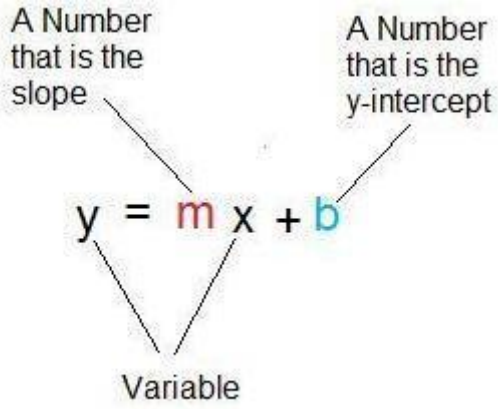
y = (7/7)x + 2/7

 The y-intercept is the term without the variable, or 2/7. Type 2/7.

---

9) Assistment #61829 "61829 - Algebra1 Finding Y-intercept from Linear Equation 5"
Determine the y-intercept from the following equation:
%v{xslope}y = %v{yslope}x + %v{yintercept}

Algebra:
✓ %v{yintercept}/%v{xslope}
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 To do this, divide each side by %v{xslope}.

$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yslope\}x + \%v\{yintercept\}}{\%v\{xslope\}}$

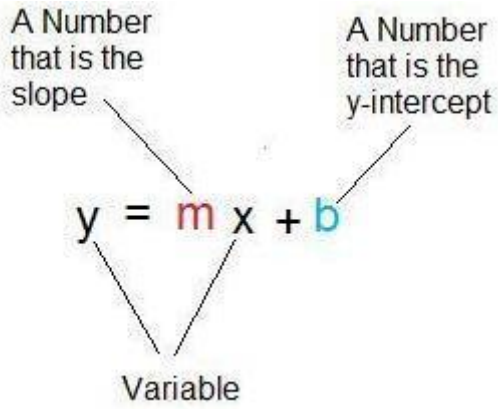
y = (%v{yslope}/%v{xslope})x + %v{yintercept}/%v{xslope}

 The y-intercept is the term without the variable, or %v{yintercept}/%v{xslope}. Type %v{yintercept}/%v{xslope}.

---

10) Assistment #61830 "61830 - Algebra1 Finding Y-intercept from Linear Equation 6"
Determine the y-intercept from the following equation:
%v{xslope}y = %v{yslope}x

Algebra:
✓ 0
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 To do this, divide each side by %v{xslope}. The equation should now look like this:
%v{xslope}y = %v{yslope}x
%v{xslope} %v{xslope}

y = (%v{yslope}/%v{xslope})x + 0
We added in the x so that you can see it.

 The y-intercept is the term without the variable, or
0.
Type in 0.

---

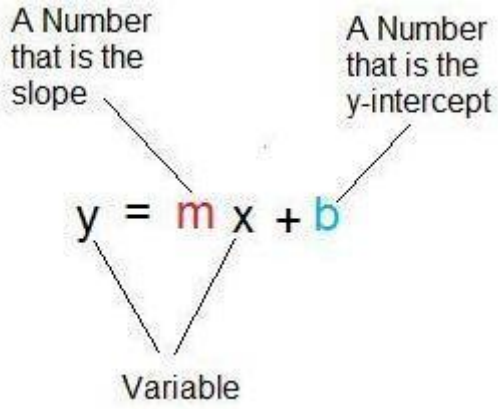
11) Assistment #93092 "93092 - 61830 - Algebra1 Finding Y-intercept from Linear Equation 6"
Determine the y-intercept from the following equation:
1y = 5x

Algebra:

✓ 0

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 To do this, divide each side by 1. The equation should now look like this:

$\frac{1y}{1} = \frac{5x}{1}$

y = (5/1)x + 0

We added in the x so that you can see it.

 The y-intercept is the term without the variable, or 0.

Type in 0.

---

12) Assistment #93082 "93082 - 61829 - Algebra1 Finding Y-intercept from Linear Equation 5"

Determine the y-intercept from the following equation:

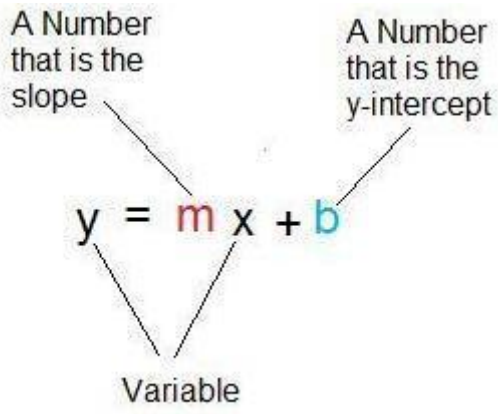
-9y = 6x + 3

Algebra:

✓ 3/-9

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 To do this, divide each side by -9.

$\frac{-9y}{-9} = \frac{6x + 3}{-9}$

y = (6/-9)x + 3/-9

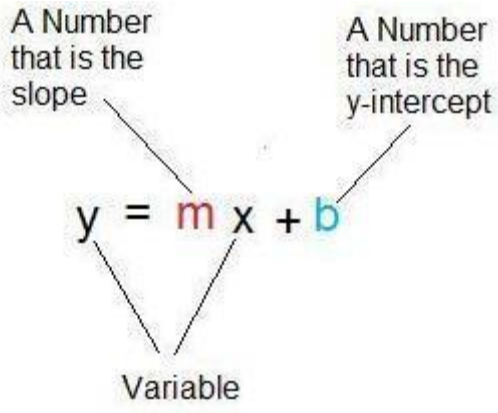
 The y-intercept is the term without the variable, or 3/-9. Type 3/-9.

---

13) Assistment #93102 "93102 - 61831 - Algebra1 Finding Y-intercept from Linear Equation 7"

Determine the y-intercept from the following equation:
8x + 8y = 10

Algebra:
✓ 10/8
Hints:
 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 First, you must subtract 8x from both sides, giving you:
8y = 10 - 8x

Then, divide each side by 8.

$\frac{8y}{8} = \frac{10 - 8x}{8}$

$y = 10/8 - (8/8)x$

 The y-intercept is the term without the variable, or 10/8. Type 10/8.

---

14) Assistment #61832 "61832 - Algebra1 Finding Y-intercept from Linear Equation 8"

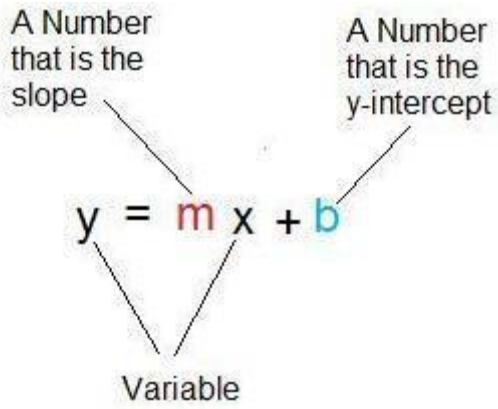
Determine the y-intercept from the following equation:
%v{xslope}y - %v{yslope}x= %v{yintercept}

Algebra:

✓ %v{yintercept}/%v{xslope}

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 First, you must subtract %v{yslope}x from both sides, giving you:
%v{xslope}y = %v{yintercept} + %v{yslope}x

Then, divide each side by %v{xslope}.

$\frac{\%v\{xslope\}y}{\%v\{xslope\}} = \frac{\%v\{yintercept\} + \%v\{yslope\}x}{\%v\{xslope\}}$

$y = \%v\{yintercept\}/\%v\{xslope\} + (\%v\{yslope\}/\%v\{xslope\})x$

 The y-intercept is the term without the variable, or %v{yintercept}/%v{xslope}. Type %v{yintercept}/%v{xslope}.

---

15) Assistment #73961 "73961 - 61831 - Algebra1 Finding Y-intercept from Linear Equation 7"

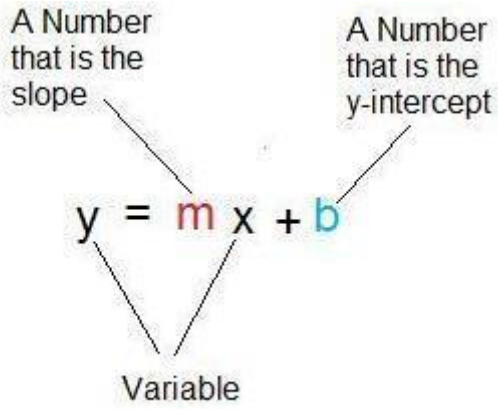
Determine the y-intercept from the following equation:
4x + 2y = 9

Algebra:

✓ 9/2

Hints:

 For a Linear Equation, you can read the slope and y-intercept when it is in slope intercept form:



 First, you must subtract 4x from both sides, giving you:
2y = 9 - 4x

Then, divide each side by 2.

$\frac{2y}{2} = \frac{9 - 4x}{2}$

y = 9/2 - (4/2)x

 The y-intercept is the term without the variable, or 9/2. Type 9/2.

Skill	Class
Substitution	P 7

The Mastery Set

Mastery Problem Set	Number of Templates
#8946	8
Number to Master	**Number of Attempts**
3	10

Templates

- 57744
  - If **x** is equal to 4 and y is equal to 19
    then what is the value of **x** + 8(y)?
    - The value of x is between 1 and 20
    - The value of y is between 1 and 20
    - The value y is multiplied by is between 1 and 20
- 57745
  - If **x** is equal to 54 and y is equal to 8
    then what is the value of **x** - 1(y)?
    - The value of x is between 41 and 60
    - The value of y is between 1 and 10
    - The value y is multiplied by is between 1 and 5
- 57746
  - If y is equal to -4
    then what is the value of 5 + 2(y)?
    - The value added to y is between 1 and 20
    - The value of y is between -10 and -1
    - The value y is multiplied by is between 1 and 5
- 57749
  - If y is equal to -7
    then what is the value of 8 - 4(y)?
    - The value added to y is between 1 and 20
    - The value of y is between -10 and -1
    - The value y is multiplied by is between 1 and 5
- 55389
  - If x is equal to -9
    then what is the value of 15 - 3(x)?
    - The value added to x is between 1 and 20
    - The value of x is between -10 and -1
    - The value x is multiplied by is between 1 and 5
- 55401
  - If x = 4 and y = 2. what is the value of the following expression?

    5x-7y

    - The value of x is between 1 and 10
    - The value of y is between 1 and 10
    - The values of the coefficients of x and y are between 2 and 10
- 55412
  - If x = 8 and y = 4 what is the value of the following expression?

    5(x - 2(x - y))

    - The value of x is between 1 and 10
    - The value of y is between 1 and 10

- The value of the outside coefficient is between 2 and 6
- The value of the inside coefficient is between 2 and 4

- 62795

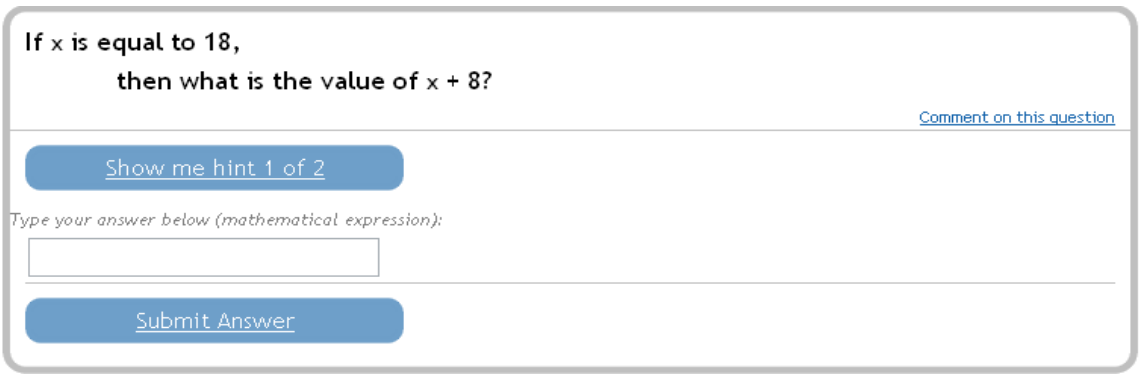
- If x = 2 and y = 7 what is the value of the following expression?

  y + (xy + 4x)

  - The value of x is between 1 and 10
  - The value of y is between 1 and 10
  - The value of the coefficient is between 2 and 6

Level 1

Mastery Problem Set	Number of Templates
#8864	5
Number to Master	**Number of Attempts**
3	10



- 57740
  - The number for x and the number added to x are randomized between 1 and 20
- 57741

If x is equal to 25,
then what is the value of x - 4?

  - The value of x is between 20 and 39
  - The number subtracted from x is between 1 and 20

- 57742

If x is equal to 8,
then what is the value of x x 3?

  - The value of x is between 1 and 10
  - The value x is multiplied by is between 1 and 10

- 57743
  - If **x** is equal to 47,
    then what is the value of **x** ÷ 6?
    (round to the nearest hundredths place)
    - The value of x is between 41 and 50
    - The value x is divided by is between 1 and 10
- 57748
  - If **x** is equal to 67,
    then what is the value of **x** ÷ 5?
    - The value x is divided by is between 1 and 11
    - The value of x is between 1 and 121

By Matthew Knapp 2009

1) Assistment #57749 "57749 - Substitution - Negative - Subtract + Multiply - Difficult"

If y is equal to %v{v2}
then what is the value of %v{v1} - %v{v3}y?

Algebra:

✓ %v{ans}

Hints:

- Start by **substituting** %v{v2} in for **y**.

This simply means replacing **y** with %v{v2}.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• %v{v1} - %v{v3}*y	=	%v{v1} - %v{v3}(%v{v2})	We start by **M**ultiplying Remember, positive times negative is negative
	=	%v{v1} - (%v{v4})	Remember, subtracting a negative number is equal to adding that number
	=	%v{v1} + %v{v4.abs}	And now, we **A**dd
	=	%v{ans}	

So,

%v{v1} - %v{v3}(%v{v2}) is equal to %v{ans} for y = %v{v2}.

Type in %v{ans}.

---

2) Assistment #55389 "55389 - Substitution - Negative - Subtract + Multiply - Difficult"

If x is equal to %v{v2}
then what is the value of %v{v1} - %v{v3}*x?

Algebra:

✓ %v{ans}

Hints:

- Start by substituting %v{v2} in for x.

This simply means replacing x with %v{v2}.

- Remember the *Order of Operations*

1. **P**arenthesis
2. Exponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

- %v{v1} - %v{v3}(%v{v2}) = %v{v1} - %v{v3}(%v{v2}) We start by **M**ultiplying
  Remember, positive times negative is negative.
  = %v{v1} - (%v{v4}) Remember, subtracting a negative number is equal to adding that number
  = %v{v1} + %v{v4.abs} And now, we **A**dd
  = %v{ans}

So,

%v{v1} - %v{v3}(%v{v2}) is equal to %v{ans}.

Type in %v{ans}.

---

3) Assistment #57745 "57745 - Substitution - Double - Subtract + Multiply - Medium"

If **x** is equal to %v{v1} and y is equal to %v{v2}
then what is the value of **x** - %v{v3}y?

Algebra:

✓ %v{ans}

Hints:

•
Start by **substituting** %v{v1} in for x, and %v{v2} in for y.
This simply means replacing x with %v{v1}, and replacing y with %v{v2}.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• x + %v{v3}*y	=	%v{v1} - %v{v3}(%v{v2})	We start by **M**ultiplying.
	=	%v{v1} - %v{v4}	And now, we **S**ubtract
	=	%v{ans}	

So,

%v{v1} - %v{v3}(%v{v2}) is equal to %v{ans} for x = %v{v1} and y = %v{v2}.

Type in %v{ans}.

---

4) Assistment #69460 "69460 - Substitution - Double - Subtract + Multiply - Medium"

If **x** is equal to 44 and y is equal to 4
then what is the value of **x** - 3y?

Algebra:
✓ 32

Hints:

•
Start by **substituting** 44 in for x, and 4 in for y.
This simply means replacing x with 44, and replacing y with 4.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• x + 3*y	=	44 - 3(4)	We start by **M**ultiplying.

	=	44 - 12	And now, we Subtract
	=	32	

So,

44 - 3(4) is equal to 32 for x = 44 and y = 4.

Type in 32.

---

5) Assistment #57744 "57744 - 27601 - Substitution - Double - Add + Multiply - Medium"

If **x** is equal to %v{v1} and y is equal to %v{v2}
then what is the value of **x** + %v{v3}y?

Algebra:

✓ %v{ans}

Hints:

-

Start by **substituting** %v{v1} in for x, and %v{v2} in for y.
This simply means replacing x with %v{v1}, and replacing y with %v{v2}.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• x + %v{v3}*y	=	%v{v1} + %v{v3}(%v{v2})	We start by **M**ultiplying.
	=	%v{v1} + %v{v3*v2}	And now, we **A**dd.
	=	%v{ans}	

So,

%v{v1} + %v{v3}(%v{v2}) is equal to %v{ans} for x = %v{v1} and y = %v{v2}.

Type in %v{ans}.

---

6) Assistment #69445 "69445 - 27601 - Substitution - Double - Add + Multiply - Medium"

If **x** is equal to 4 and y is equal to 15
then what is the value of **x** + 10y?

Algebra:

✓ 154

Hints:

•

Start by **substituting** 4 in for x, and 15 in for y.
This simply means replacing x with 4, and replacing y with 15.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• x + 10*y	=	4 + 10(15)	We start by **M**ultiplying.
	=	4 + 150	And now, we **A**dd.
	=	154	

So,

4 + 10(15) is equal to 154 for x = 4 and y = 15.

Type in 154.

---

7) Assistment #57746 "57746 - Substitution - Negative - Add + Multiply - Difficult"

If y is equal to %v{v2}
then what is the value of %v{v1} + %v{v3}y?

Algebra:

✓ %v{ans}

Hints:

- Start by **substituting** %v{v2} in for y.

This simply means replacing y with %v{v2}.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)

3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• %v{v1} + %v{v3}*y	=	%v{v1} + %v{v3}(%v{v2})	We start by **M**ultiplying Remember, positive times negative is negative
	=	%v{v1} + (%v{v4})	Remember, adding a negative number is equal to subtracting that number
	=	%v{v1} - %v{v4.abs}	And now, we **S**ubtract
	=	%v{ans}	

So,

%v{v1} + %v{v3}(%v{v2}) is equal to %v{ans} for y = %v{v2}.

Type in %v{ans}.

---

8) Assistment #69485 "69485 - Substitution - Negative - Add + Multiply - Difficult"

If y is equal to -2
then what is the value of 19 + 2y?

Algebra:

✓ 15

Hints:

- Start by **substituting** -2 in for y.

This simply means replacing y with -2.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• 19 + 2*y	=	19 + 2(-2)	We start by **M**ultiplying Remember, positive times negative is negative
	=	19 + (-4)	Remember, adding a negative number is equal to subtracting that number
	=	19 - 4	And now, we **S**ubtract
	=	15	

So,

19 + 2(-2) is equal to 15 for y = -2.

Type in 15.

---

9) Assistment #62795 "62795 - If x = %v{a} and ..."

If x = %v{a} and y = %v{b} what is the value of the following expression?

y + (xy + %v{c}x)

Algebra:

✓ %v{ans}

Hints:

- Substitute the given values of x and y into the expression.

Here is an Example:

If x = 4 and y = 7 then what is the value of y(xy + 5x)?

y + (xy + 5x)
7 + (4(7) + 5(4))

- Remember the Order of Operations

1. Parenthesis
2. Exponents (powers, roots, etc)
3. Multiplication & Division (from left to right)
4. Addition & Subtraction (from left to right)

This can be remembered as PEMDAS

-

y + (xy + %v{c}x)

%v{b} + (%v{a}(%v{b}) + %v{c}(%v{a}))	Use order of operations to simplify, PEMDAS. Parentheses first.
%v{b} + (%v{a}(%v{b}) + %v{e})	Continue simplifiying what is inside the parentheses by using multiplication.
%v{b} + (%v{d}+ %v{e})	Continue simplifying what is inside the parentheses by using addition.
%v{b} + %v{f}	Continue simplifying using addition.

%v{ans}

%v{b} + (%v{a}(%v{b}) + %v{c}(%v{a})) = %v{ans}

Type in %v{ans}

---

10) Assistment #69470 "69470 - If x = 1 and y = ..."

If x = 1 and y = 2 what is the value of the following expression?

y + (xy + 5x)

Algebra:

✓ 9

Hints:

- Substitute the given values of x and y into the expression.

Here is an Example:

If x = 4 and y = 7 then what is the value of y(xy + 5x)?

y + (xy + 5x)
7 + (4(7) + 5(4))

- Remember the Order of Operations

1. Parenthesis
2. Exponents (powers, roots, etc)
3. Multiplication & Division (from left to right)
4. Addition & Subtraction (from left to right)

This can be remembered as PEMDAS

- y + (xy + 5x)

2 + (1(2) + 5(1))	Use order of operations to simplify, PEMDAS. Parentheses first.
2 + (1(2) + 5)	Continue simplifiying what is inside the parentheses by using multiplication.
2 + (2+ 5)	Continue simplifying what is inside the parentheses by using addition.
2 + 7	Continue simplifying using addition.

9

2 + (1(2) + 5(1)) =
9
Type in 9

---

11) Assistment #55401 "55401 - If x = %v{a} and ..."

If x = %v{a} and y = %v{b}. what is the value of the following expression?

%v{c}x-%v{d}y

Algebra:

✔ %v{ans}

Hints:

- Substitute in the given values for x and y into the expression.

Here is an example:

If x = 3 and y = 6 what is the value of 5x - 3y?

5x - 3y
5 * 3 - 3 * 6

- Remember the Order of Operation

1. Parenthesis
2. Exponents (powers, roots, etc)
3. Multiplication & Division (from left to right)
4. Addition & Subtraction (from left to right)

This can be remembered as PEMDAS

- **This is how you solve this problem.**

%v{c}x - %v{d}y	
%v{c}*%v{a}-%v{d}*%v{b}	Simplify using order of operations, PEMDAS. Multiplication before subtraction.
%v{ac} - %v{bd}	Continue simplifying using subtraction
%v{ans}	

%v{c}*%v{a}-%v{d}*%v{b} =
%v{ans}
Type in %v{ans}

---

12) Assistment #69415 "69415 - If x = 2 and y = ..."

If x = 2 and y = 8. what is the value of the following expression?

5x-7y

Algebra:

✔ -46

Hints:

- Substitute in the given values for x and y into the expression.

Here is an example:

If x = 3 and y = 6 what is the value of 5x - 3y?

5x - 3y
5 * 3 - 3 * 6

- Remember the Order of Operation

1. Parenthesis
2. Exponents (powers, roots, etc)
3. Multiplication & Division (from left to right)
4. Addition & Subtraction (from left to right)

This can be remembered as PEMDAS

- **This is how you solve this problem.**

5x - 7y

5*2-7*8	Simplify using order of operations, PEMDAS. Multiplication before subtraction.
10 - 56	Continue simplifying using subtraction
-46	

5*2-7*8 = -46
Type in -46

---

13) Assistment #69505 "69505 - Substitution - Negative - Subtract + Multiply - Difficult"

If y is equal to -2
then what is the value of 18 - 4y?

Algebra:

✓ 26

Hints:

- Start by **substituting** -2 in for **y**.

This simply means replacing **y** with -2.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

• 18 - 4*y	=	18 - 4(-2)	We start by **M**ultiplying Remember, positive times negative is negative

=	18 - (-8)	Remember, subtracting a negative number is equal to adding that number
=	18 + 8	And now, we **A**dd
=	26	

So,

18 - 4(-2) is equal to 26 for y = -2.

Type in 26.

---

14) Assistment #69495 "69495 - Substitution - Negative - Subtract + Multiply - Difficult"

If x is equal to -5
then what is the value of 4 - 1*x?

Algebra:

✓ 9

Hints:

- Start by substituting -5 in for x.

This simply means replacing x with -5.

- Remember the *Order of Operations*

1. **P**arenthesis
2. **E**xponents (powers, roots, etc)
3. **M**ultiplication & **D**ivision (from left to right)
4. **A**ddition & **S**ubtraction (from left to right)

This can be remembered as **PEMDAS**.

- 4 - 1(-5)

=	4 - 1(-5)	We start by **M**ultiplying Remember, positive times negative is negative.
=	4 - (-5)	Remember, subtracting a negative number is equal to adding that number
=	4 + 5	And now, we **A**dd
=	9	

So,

4 - 1(-5) is equal to 9.

Type in 9.

---

15) Assistment #55412 "55412 - If x = %v{a} and ..."

If x = %v{a} and y = %v{b} what is the value of the following expression?

%v{c}(x - %v{d}(x - y))

Algebra:

✓ %v{ans}

Hints:

- Substitute the given values of x and y into the expression.

Here is an Example:

If x = 4 and y = 7 then what is the value of 2(x - 5(x - y))?

2(x - 5(x - y))
2(4 - 5(4 - 7))

- Remember the Order of Operations

1. Parenthesis
2. Exponents (powers, roots, etc)
3. Multiplication & Division (from left to right)
4. Addition & Subtraction (from left to right)

This can be remembered as PEMDAS

- %v{c}(x - %v{d}(x - y))
- %v{c}(%v{a} - %v{d}(%v{a} - %v{b})) — Use order of operations to simplify, PEMDAS. Parentheses first.
- %v{c}(%v{a} - %v{d}(%v{ab})) — Continue simplifiying what is inside the parentheses by using multiplication. Remember if you multiply two negative numbers you get a positive number, if you multiply a positive and a negative number you get a negative number.
- %v{c}(%v{a} - (%v{dab})) — Continue simplifying what is inside the parentheses by using addition.
- %v{c}(%v{adab}) — Continue simplifying using multiplication.
- %v{ans}

%v{c}(%v{a} - %v{d}(%v{a} - %v{b})) = %v{ans}
Type in %v{ans}

---

16) Assistment #69430 "69430 - If x = 8 and y = ..."

If x = 8 and y = 8 what is the value of the following expression?

2(x - 2(x - y))

Algebra:
✔ 16

Hints:

- Substitute the given values of x and y into the expression.

Here is an Example:

If x = 4 and y = 7 then what is the value of 2(x - 5(x - y))?

2(x - 5(x - y))
2(4 - 5(4 - 7))

- Remember the Order of Operations

1. Parenthesis
2. Exponents (powers, roots, etc)
3. Multiplication & Division (from left to right)
4. Addition & Subtraction (from left to right)

This can be remembered as PEMDAS

-

2(x - 2(x - y))	
2(8 - 2(8 - 8))	Use order of operations to simplify, PEMDAS. Parentheses first.
2(8 - 2(0))	Continue simplifiying what is inside the parentheses by using multiplication. Remember if you multiply two negative numbers you get a positive number, if you multiply a positive and a negative number you get a negative number.
2(8 - (0))	Continue simplifying what is inside the parentheses by using addition.
2(8)	Continue simplifying using multiplication.
16	

2(8 - 2(8 - 8)) =
16
Type in 16

---

17) Assistment #57743 "57743 - 27513 - Substitution - Division - Medium"

If **x** is equal to %v{v1},

then what is the value of **X** ÷ %v{v2}?

(round to the nearest hundredths place)

Algebra:
✔ %v{ans}

Hints:

- Start by **substituting** %v{v1} in for **x**.

This simply means *replacing **x** with %v{v1}*.

- x ÷ %v{v2}

%v{v1} ÷ %v{v2} = %v{anslong}

%v{anslong} rounds to %v{ans}

(round to the nearest hundredths place)

Then, the value of **x** ÷ %v{v2} when x = %v{v1} rounded to the nearest hundreths is %v{ans}.
Type in %v{ans}

---

18) Assistment #66507 "66507 - 27513 - Substitution - Division - Medium"

If **x** is equal to 41,

then what is the value of **X** ÷ 2?

(round to the nearest hundredths place)

Algebra:

✓ 20.5

Hints:

- Start by **substituting** 41 in for **x**.

This simply means *replacing **x** with 41*.

- x ÷ 2

41 ÷ 2 = 20.5

20.5 rounds to 20.5

(round to the nearest hundredths place)

Then, the value of **x** ÷ 2 when x = 41 rounded to the nearest hundreths is 20.5.
Type in 20.5

---

19) Assistment #57740 "57740 - Substitution - Add"

If **x** is equal to %v{v1},

then what is the value of **x** + %v{v2}?

Algebra:

✓ %v{ans}

Hints:

- Start by **substituting** %v{v1} in for **x**.

This simply means *replacing **x** with %v{v1}*.

- So,

x + %v{v2}
%v{v1} + %v{v2} = %v{ans}

Then, the value of **x** + %v{v2} is equal to %v{ans} for x = %v{v1}.

Type in %v{ans}.

---

20) Assistment #66447 "66447 - Substitution - Add"

If **x** is equal to 15,
then what is the value of **x** + 1?

Algebra:

✓ 16

Hints:

- Start by **substituting** 15 in for **x**.

This simply means *replacing **x** with 15*.

- So,

x + 1
15 + 1 = 16

Then, the value of **x** + 1 is equal to 16 for x = 15.

Type in 16.

---

21) Assistment #57741 "57741 - Substitution - Subtract"

If **x** is equal to %v{v1},
then what is the value of **x** - %v{v2}?

Algebra:

✓ %v{ans}

Hints:

- Start by **substituting** %v{v1} in for **x**.

This simply means *replacing **x** with %v{v1}*.

- x - %v{v2}

%v{v1} - %v{v2} = %v{ans}

Then, the value of **x** - %v{v2} is equal to %v{ans} for x = %v{v1}.

Type in %v{ans}.

22) Assistment #66462 "66462 - Substitution - Subtract"

If **x** is equal to 36,
then what is the value of **x** - 6?

Algebra:

✓ 30

Hints:

- Start by **substituting** 36 in for **x**.

This simply means *replacing **x** with 36*.

- x - 6

36 - 6 = 30

Then, the value of **x** - 6 is equal to 30 for x = 36.

Type in 30.

---

23) Assistment #57748 "57748 - 27774 - Substitution - Division Facts - Easy"

If **x** is equal to %v{v3},
then what is the value of **x** ÷ %v{v1}?

Algebra:

✓ %v{v2}

Hints:

- First, replace **x** with %v{v3} in the expression:

  x ÷ %v{v1}

- Here is the multiplication table of %v{v1}.

Try to use it to find the value of %v{v3} ÷ %v{v1}.

%v{v1}	*	0	=	%v{v1*0}
%v{v1}	*	1	=	%v{v1*1}
%v{v1}	*	2	=	%v{v1*2}
%v{v1}	*	3	=	%v{v1*3}
%v{v1}	*	4	=	%v{v1*4}
%v{v1}	*	5	=	%v{v1*5}
%v{v1}	*	6	=	%v{v1*6}
%v{v1}	*	7	=	%v{v1*7}
%v{v1}	*	8	=	%v{v1*8}
%v{v1}	*	9	=	%v{v1*9}
%v{v1}	*	10	=	%v{v1*10}

- Look at the row that shows:

%v{v1} * %v{v2} = %v{v3}.

%v{v1} * %v{v2} = %v{v3}, can also be represented as:
%v{v3} ÷ %v{v1} = %v{v2}

So **x** ÷ %v{v1} is equal to %v{v2} for x = %v{v3}.
Type in %v{v2}.

---

24) Assistment #66492 "66492 - 27774 - Substitution - Division Facts - Easy"

If **x** is equal to 10,
then what is the value of **x** ÷ 5?

Algebra:

✓ 2

Hints:

- First, replace **x** with 10 in the expression:

x ÷ 5

- Here is the multiplication table of 5.

Try to use it to find the value of 10 ÷ 5.

5	*	0	=	0
5	*	1	=	5
5	*	2	=	10
5	*	3	=	15
5	*	4	=	20
5	*	5	=	25
5	*	6	=	30
5	*	7	=	35
5	*	8	=	40
5	*	9	=	45
5	*	10	=	50

- Look at the row that shows:

5 * 2 = 10.

5 * 2 = 10, can also be represented as:
10 ÷ 5 = 2

So **x** ÷ 5 is equal to 2 for x = 10.

Type in 2.

---

25) Assistment #57742 "57742 - Substitution - Multiplication"

If **x** is equal to %v{v1},
then what is the value of **x** x %v{v2}?

Algebra:

✓ %v{ans}

Hints:

- Start by **substituting** %v{v1} in for **x**.

This simply means *replacing **x** with %v{v1}*.

- Use the following multiplication table to find the value of

%v{v1} x %v{v2}

Multiplication Table			
%v{v1}	x	1	%v{v1}
%v{v1}	x	2	%v{v1*2}
%v{v1}	x	3	%v{v1*3}
%v{v1}	x	4	%v{v1*4}
%v{v1}	x	5	%v{v1*5}
%v{v1}	x	6	%v{v1*6}
%v{v1}	x	7	%v{v1*7}
%v{v1}	x	8	%v{v1*8}
%v{v1}	x	9	%v{v1*9}
%v{v1}	x	10	%v{v1*10}

- From the table:

x x %v{v2}
%v{v1} x %v{v2} = %v{ans}

Then, the value of **x** x %v{v2} is equal to %v{ans} for x = %v{v1}.

Type in %v{ans}.

---

26) Assistment #66477 "66477 - Substitution - Multiplication"

If **x** is equal to 6,

then what is the value of **x** x 3?

Algebra:

✓ 18

Hints:

- Start by **substituting** 6 in for **x**.

This simply means *replacing **x** with 6*.

- Use the following multiplication table to find the value of

6 x 3

Multiplication Table			
6	x	1	6
6	x	2	12
6	x	3	18
6	x	4	24
6	x	5	30
6	x	6	36
6	x	7	42
6	x	8	48
6	x	9	54
6	x	10	60

- From the table:

x x 3
6 x 3 = 18

Then, the value of **x** x 3 is equal to 18 for x = 6.

Type in 18.

Skill	Class
Finding Slope in Situation	WPI 8th Grade Model

Mastery Problem Set # 9318	Number of Templates 4
Number to Master 3	Number of Attempts

Templates

61766

A phone company charges a base price of $0.6 for a call plus an additional $0.12 per minute. If you were to graph the price of a phone call where minutes on the call is your independent variable (x) and the total cost is your dependent variable (y), what would be the slope of the line?

Comment on this question

Show me hint 1 of 3

Type your answer below (mathematical expression):

Submit Answer

Equation has positive y-intercept and positive slope.
Base: $.50 .. $2.00
Rate: $.05 .. $.50

62232

A bank account currently has a balance of $8710. Each month, $30 is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one,where the number of months passed is your independent variable (x) and the balance of the account is your dependent variable (y), what would be the slope of the line?

Comment on this question

Show me hint 1 of 3

Type your answer below (mathematical expression):

Submit Answer

Equation has positive y-intercept and negative slope.
Base: $1000 .. $10,000
Rate: $5 .. $30

63986

A deep freezer has a temperature of -19°C when it is turned off. The temperature then rises at 0.3°C per minute. If you were to graph the temperature of the deep freezer x minutes after it is turned off where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the slope of the line?

Comment on this question

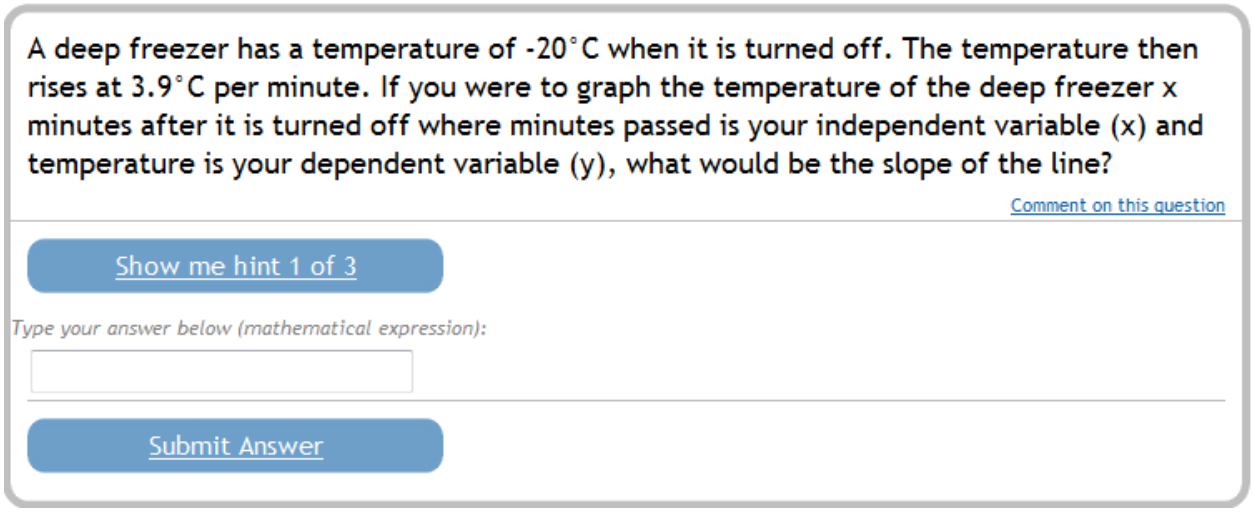
Show me hint 1 of 3

Type your answer below (mathematical expression):

Submit Answer

Equation has negative y-intercept and positive slope.
Base: 5C .. 25C
Rate: .2C .. 5.2C

63988



Equation has negative y-intercept and negative slope.
Base: 100ft .. 1000ft
Rate: 10ft .. 100ft

Assistment #61766 "61766 - Finding Slope in Situation Phone"

A phone company charges a base price of $%v{base} for a call plus an additional $%v{rate} per minute. If you were to graph the price of a phone call where minutes on the call is your independent variable (x) and the total cost is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ %v{rate}

Hints:

- There are two variables in this situation:
  the number of minutes you talk (independent)
  and the cost of the phone call (dependent).
- The slope of the line is the **rate** at which the cost of a phone call changes for each minute that passes.
- The rate at which the cost increases is $%v{rate} per minute.
  The slope of the line would be %v{rate}

Assistment #77523 "77523 - 61766 - Finding Slope in Situation Phone"

A phone company charges a base price of $1.91 for a call plus an additional $0.2 per minute. If you were to graph the price of a phone call where minutes on the call is your independent variable (x) and the total cost is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ 0.2

Hints:

- There are two variables in this situation:
  the number of minutes you talk (independent)
  and the cost of the phone call (dependent).
- The slope of the line is the **rate** at which the cost of a phone call changes for each minute that passes.

- The rate at which the cost increases is $0.2 per minute.
  The slope of the line would be 0.2

Assistment #62232 "62232 - Finding Slope in Situation Bank"

A bank account currently has a balance of $%v{base}. Each month, $%v{rate} is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one,where the number of months passed is your independent variable (x) and the balance of the account is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ %v{-rate}

Hints:

- There are two variables in this situation:
  the number of months passed (independent)
  and the balance of the bank account. (dependent).
- The slope of the line is the **rate** at which the balance of the bank account changes for each month that passes.
- The rate at which the balance decreases is $%v{rate} per month.
  The slope of the line would be %v{-rate}

Assistment #63988 "63988 - Finding Slope in Situation Submarine"

A submarine is being tracked underwater. At the beginning of the tracking the submarine is at a depth of %v{base} feet below sea level. The submarine is descending at %v{rate} feet per minute. If you were to graph the elevation of the submarine after x minutes of tracking, where minutes passes since the tracking started is your independent variable (x) and elevation above sealevel is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ %v{-rate}

Hints:

- There are two variables in this situation:
  the number of minutes passed (independent)
  and the elevation of submarine relative to sea level. (dependent).
- The slope of the line is the **rate** at which the elevation of the submarine changes for each minute that passes.
- The rate at which the elevation decreases is %v{rate} feet per minute.
  The slope of the line would be %v{-rate}

Assistment #77570 "77570 - Finding Slope in Situation Freezer"

A deep freezer has a temperature of -9°C when it is turned off. The temperature then rises at 2.9°C per minute. If you were to graph the temperature of the deep freezer x minutes after it is turned off where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ 2.9

Hints:

- There are two variables in this situation:
  the number of minutes passed since the deep freezer is turned off (independent)
  and the temperature of the deep freezer. (dependent).
- The slope of the line is the **rate** at which the temperature of the deep freezer changes for each minute that passes.
- The rate at which the temperature increases is 2.9°C per minute.
  The slope of the line would be 2.9
-

Assistment #63986 "63986 - Finding Slope in Situation Freezer"

A deep freezer has a temperature of %v{base}°C when it is turned off. The temperature then rises at %v{rate}°C per minute. If you were to graph the temperature of the deep freezer x minutes after it is turned off where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ %v{rate}

Hints:

- There are two variables in this situation:
  the number of minutes passed since the deep freezer is turned off (independent)
  and the temperature of the deep freezer. (dependent).
- The slope of the line is the **rate** at which the temperature of the deep freezer changes for each minute that passes.
- The rate at which the temperature increases is %v{rate}°C per minute.
  The slope of the line would be %v{rate}

Assistment #77506 "77506 - Finding Slope in Situation Bank"

A bank account currently has a balance of $1006. Each month, $10 is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one,where the number of months passed is your independent variable (x) and the balance of the account is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ -10

Hints:

- There are two variables in this situation:
  the number of months passed (independent)
  and the balance of the bank account. (dependent).
- The slope of the line is the **rate** at which the balance of the bank account changes for each month that passes.
- The rate at which the balance decreases is $10 per month.
  The slope of the line would be -10

Assistment #77548 "77548 - Finding Slope in Situation Submarine"

A submarine is being tracked underwater. At the beginning of the tracking the submarine is at a depth of 653 feet below sea level. The submarine is descending at 98 feet per minute. If you were to graph the elevation of the submarine after x minutes of tracking, where minutes passes since the tracking started is your independent variable (x) and elevation above sealevel is your dependent variable (y), what would be the slope of the line?

Algebra:

✓ -98

Hints:

- There are two variables in this situation:
  the number of minutes passed (independent)
  and the elevation of submarine relative to sea level. (dependent).
- The slope of the line is the **rate** at which the elevation of the submarine changes for each minute that passes.
- The rate at which the elevation decreases is 98 feet per minute.
  The slope of the line would be -98

Assistment #63988 "63988 - Finding Slope in Situation Submarine"

A submarine is being tracked underwater. At the beginning of the trac
depth of %v{base} feet below sea level. The submarine is descending
minute. If you were to graph the elevation of the submarine after x m
minutes passes since the tracking started is your independent variable
sealevel is your dependent variable (y), what would be the slope of th

Algebra:

✓ %v{-rate}

Hints:

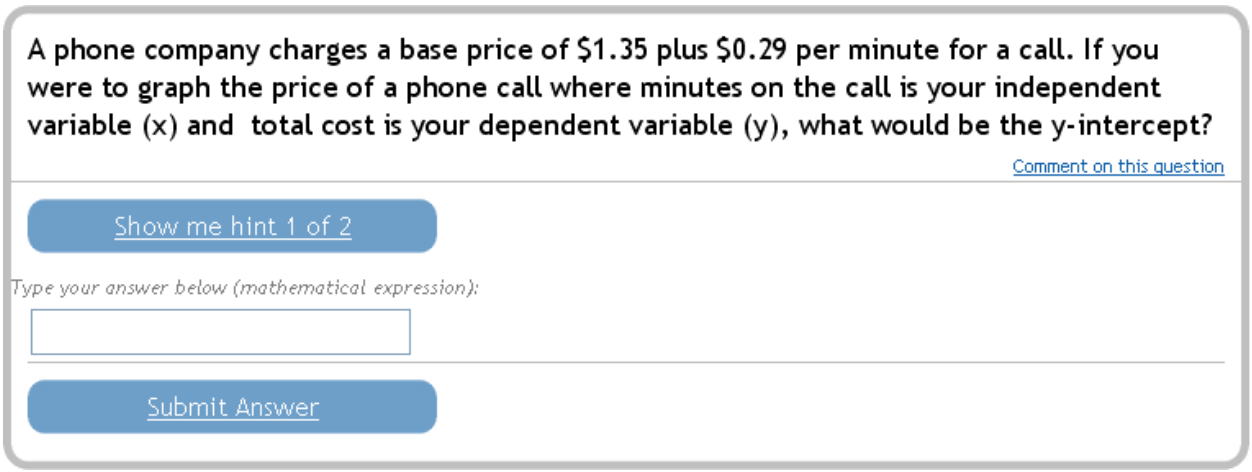
- There are two variables in this situation:
  the number of minutes passed (independent)
  and the elevation of submarine relative to sea level. (depen
- The slope of the line is the **rate** at which the elevation of the
  minute that passes.
- The rate at which the elevation decreases is %v{rate} feet p
  The slope of the line would be %v{-rate}

Skill	Class
Finding y-intercept in Situation	WPI 8th Grade Model

Mastery Problem Set	Number of Templates
# 9329	4
Number to Master	**Number of Attempts**
3	

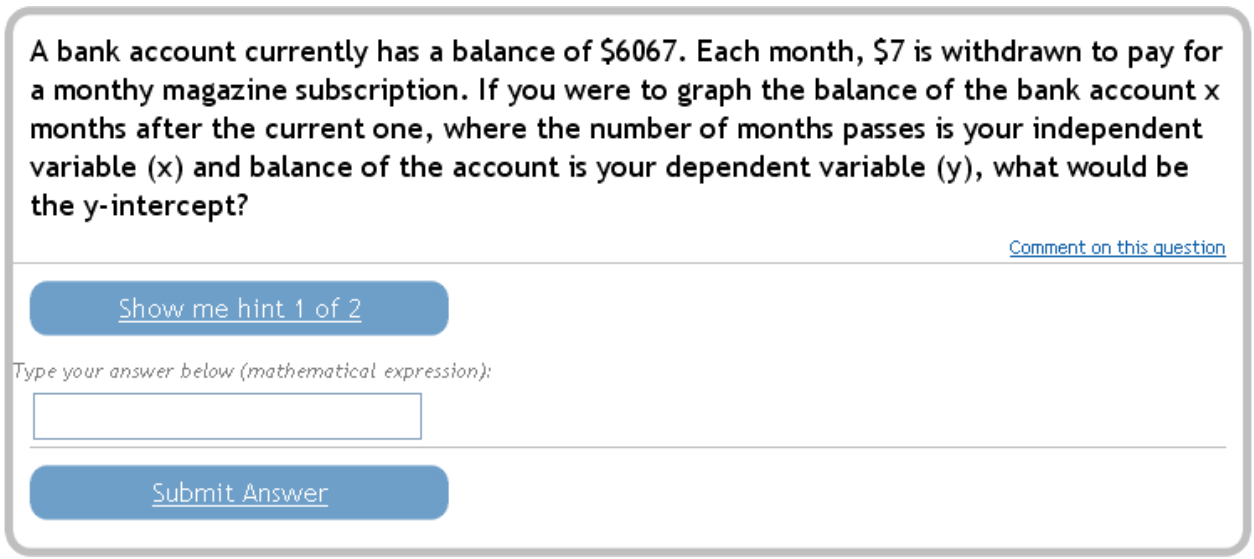
Templates

61767



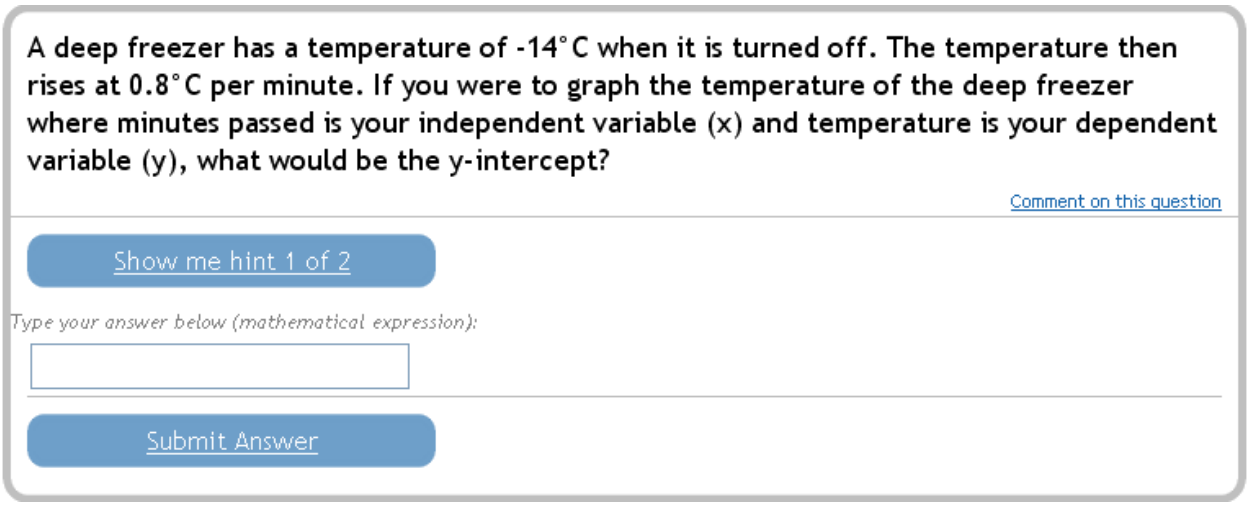
Equation has positive y-intercept and positive slope.
Base: $.50 .. $2.00
Rate: $.05 .. $.50

62233



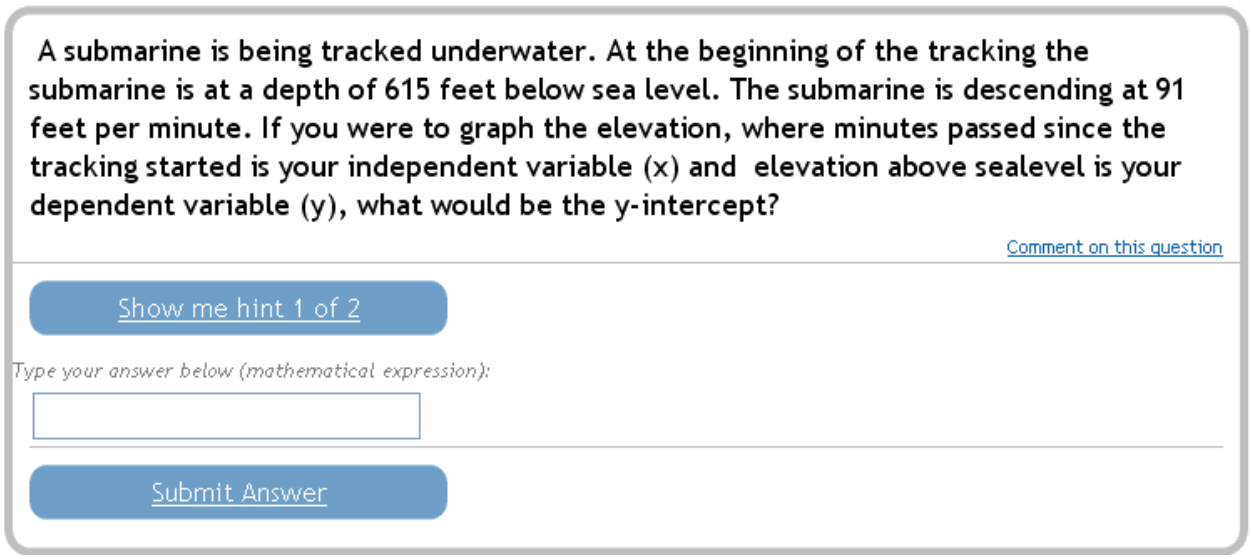
Equation has positive y-intercept and negative slope.
Base: $1000 .. $10,000
Rate: $5 .. $30

63987



Equation has negative y-intercept and positive slope.
Base: 5C .. 25C
Rate: .2C .. 5.2C

63992



Equation has negative y-intercept and negative slope.
Base: 100ft .. 1000ft
Rate: 10ft .. 100ft

Assistment #61767 "61767 - Finding y-intercept in Situation Phone"

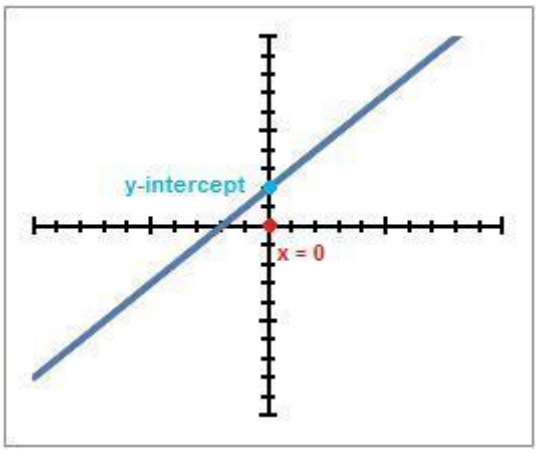
A phone company charges a base price of $%v{base} plus $%v{rate} per minute for a call. If you were to graph the price of a phone call where minutes on the call is your independent variable (x) and total cost is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ %v{base}

Hints:

- The y-intercept is cost of a call where x (or the independent variable) is equal to 0.



- When the number of minutes is equal to 0, the price of the call is %v{base}.
  On a graph the y-intercept would be %v{base}.
  The answer is %v{base}.

Assistment #77654 "77654 - 61767 - Finding y-intercept in Situation Phone"

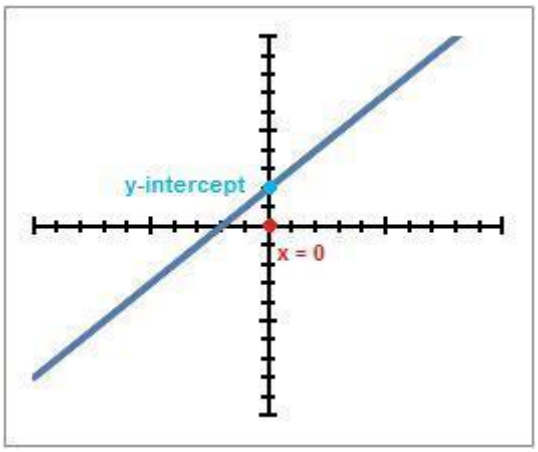
A phone company charges a base price of $1.93 plus $0.35 per minute for a call. If you were to graph the price of a phone call where minutes on the call is your independent variable (x) and total cost is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ 1.93

Hints:

- The y-intercept is cost of a call where x (or the independent variable) is equal to 0.



- When the number of minutes is equal to 0, the price of the call is 1.93.
  On a graph the y-intercept would be 1.93.

The answer is 1.93.

Assistment #62233 "62233 - Finding y-intercept in Situation Bank"

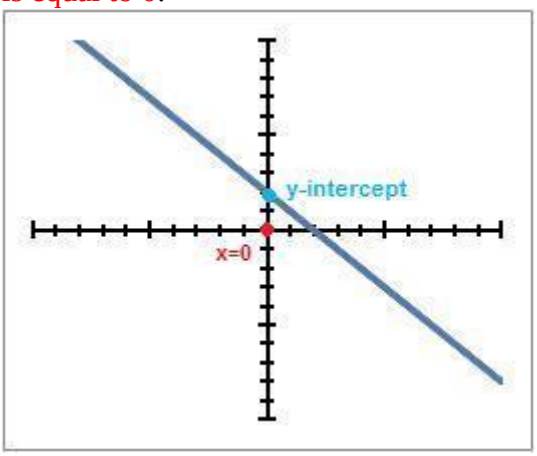
A bank account currently has a balance of $%v{base}. Each month, $%v{rate} is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one, where the number of months passed is your independent variable (x) and balance of the account is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ %v{base}

Hints:

- The y-intercept is the balance of the bank account where x (or the independent variable) is equal to 0.



- When the number of months passed is equal to 0, the balance of the bank account is %v{base}.
  On a graph the y-intercept would be %v{base}.
  The answer is %v{base}.

Assistment #77623 "77623 - Finding y-intercept in Situation Bank"

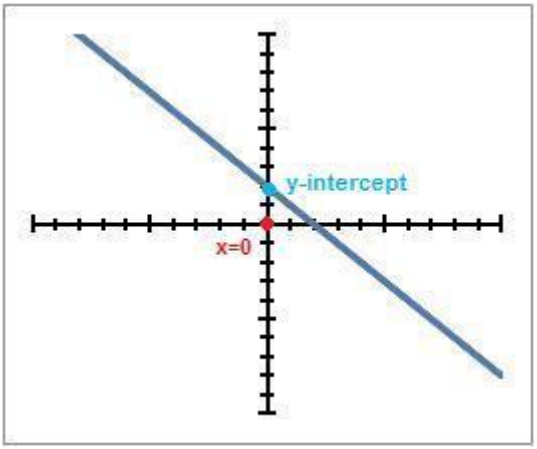
A bank account currently has a balance of $5851. Each month, $22 is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one, where the number of months passed is your independent variable (x) and balance of the account is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ 5851

Hints:

- The y-intercept is the balance of the bank account where x (or the independent variable) is equal to 0.



- When the number of months passed is equal to 0, the balance of the bank account is 5851.
  On a graph the y-intercept would be 5851.
  The answer is 5851.

Assistment #63987 "63987 - Finding y-intercept in Situation Freezer"

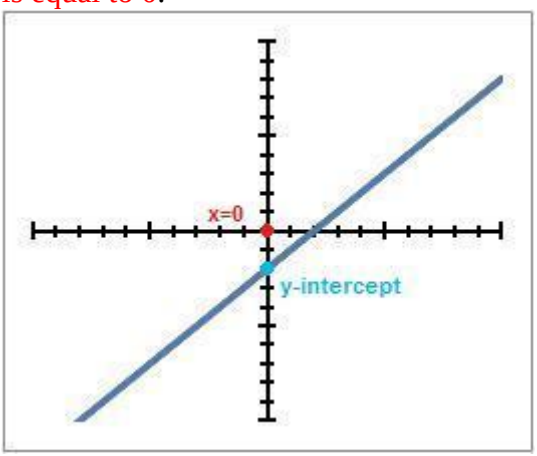
A deep freezer has a temperature of %v{base}°C when it is turned off. The temperature then rises at %v{rate}°C per minute. If you were to graph the temperature of the deep freezer where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ %v{base}

Hints:

- The y-intercept is temperature of the deep freezer where x (or the independent variable) is equal to 0.



- When the number of minutes is equal to 0, the temperature of the deep freezer is %v{base}.
  On a graph the y-intercept would be %v{base}.
  The answer is %v{base}.

Assistment #77614 "77614 - Finding y-intercept in Situation Freezer"

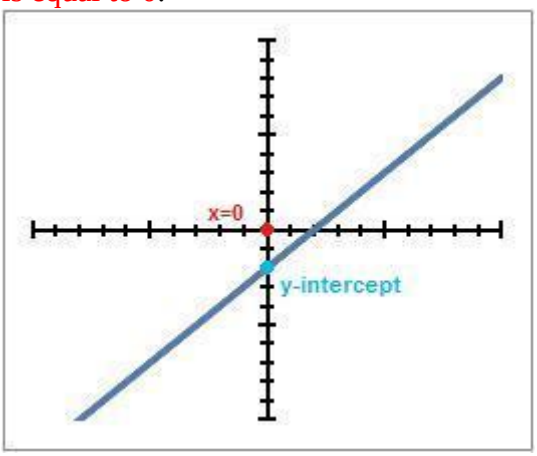
A deep freezer has a temperature of -8°C when it is turned off. The temperature then rises at 3°C per minute. If you were to graph the temperature of the deep freezer where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ -8

Hints:

- The y-intercept is temperature of the deep freezer where x (or the independent variable) is equal to 0.



- When the number of minutes is equal to 0, the temperature of the deep freezer is -8.
  On a graph the y-intercept would be -8.
  The answer is -8.

Assistment #63992 "63992 - Finding y-intercept in Situation Submarine"

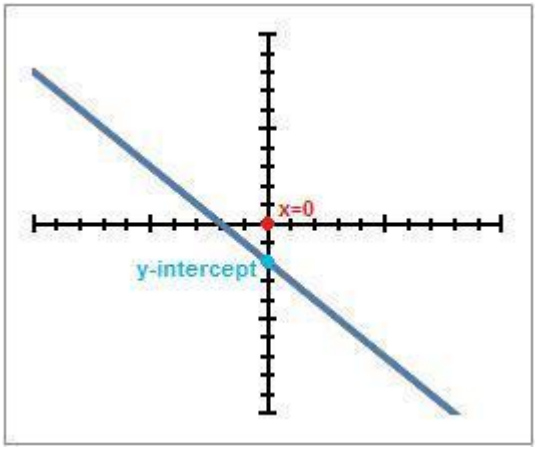
A submarine is being tracked underwater. At the beginning of the tracking the submarine is at a depth of %v{base} feet below sea level. The submarine is descending at %v{rate} feet per minute. If you were to graph the elevation, where minutes passed since the tracking started is your independent variable (x) and elevation above sealevel is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ %v{-base}

Hints:

- The y-intercept is the elevation of the submarine where x (or the independent variable) is equal to 0.



- When the number of minutes passed is equal to 0, the elevation of the submarine is %v{-base}.
  On a graph the y-intercept would be %v{-base}.
  The answer is %v{-base}.

Assistment #77588 "77588 - Finding y-intercept in Situation Submarine"

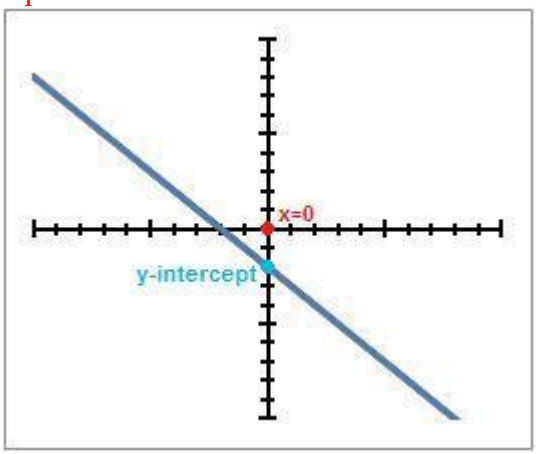
A submarine is being tracked underwater. At the beginning of the tracking the submarine is at a depth of 358 feet below sea level. The submarine is descending at 35 feet per minute. If you were to graph the elevation, where minutes passed since the tracking started is your independent variable (x) and elevation above sealevel is your dependent variable (y), what would be the y-intercept?

Algebra:

✓ -358

Hints:

- The y-intercept is the elevation of the submarine where x (or the independent variable) is equal to 0.



- When the number of minutes passed is equal to 0, the elevation of the submarine is -358.
  On a graph the y-intercept would be -358.
  The answer is -358.

Skill	Class
Writing Linear Equations from Situation	WPI 8th Grade Model

Mastery Problem Set #	Number of Templates 4
Number to Master 3	Number of Attempts

Templates

61768

A phone company charges a base price of $0.79 plus $0.23 per minute for a call. If you were to graph the price of a phone call, what would be the equation of the line in slope-intercept form?

Comment on this question

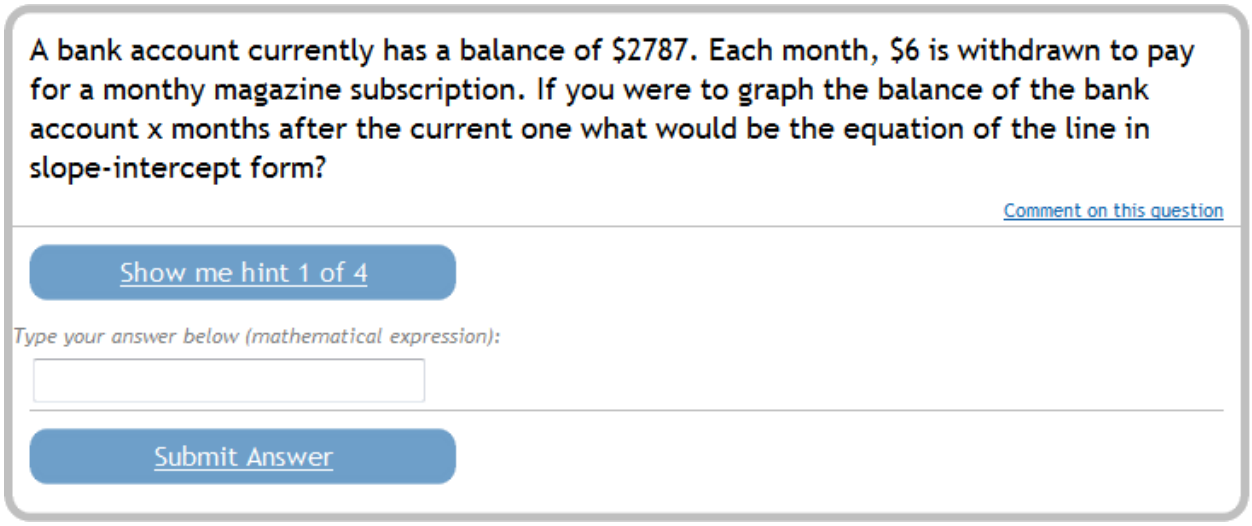
Show me hint 1 of 4

Type your answer below (mathematical expression):

Submit Answer

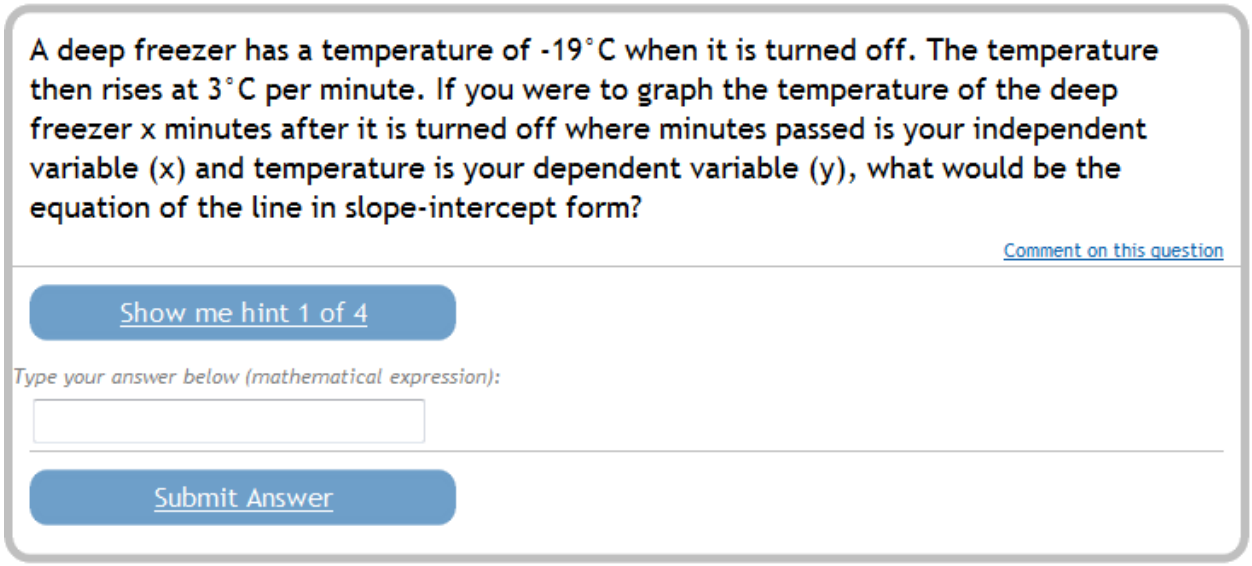
Equation has positive y-intercept and positive slope.
Base: $.50 .. $2.00
Rate: $.05 .. $.50

62234



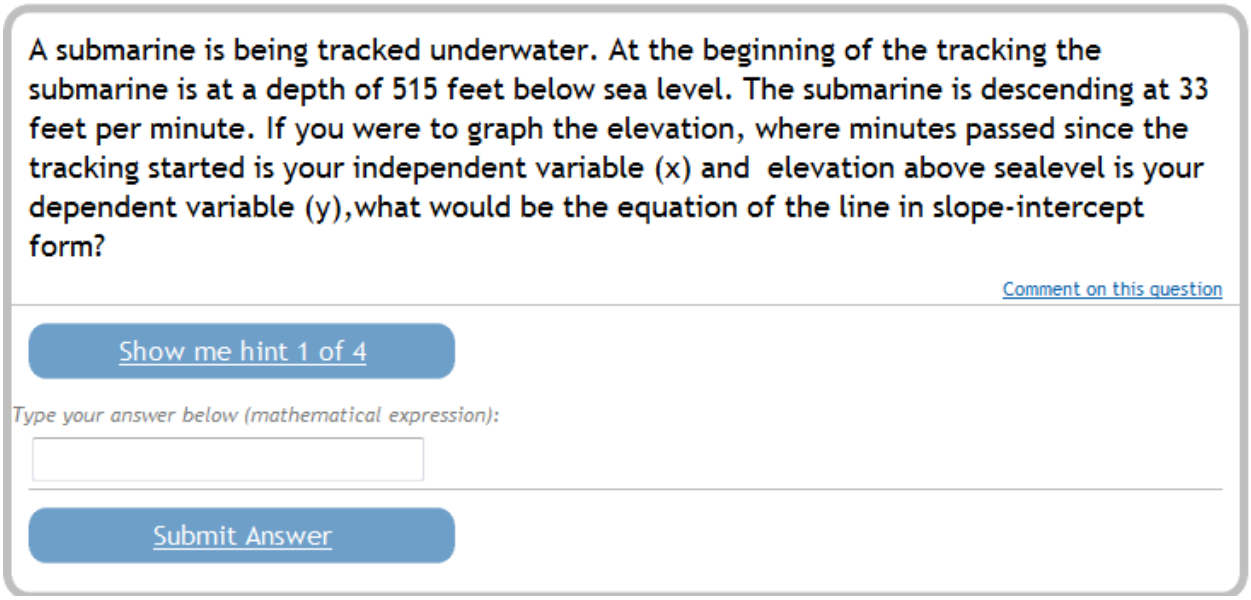
Equation has positive y-intercept and negative slope.
Base: $1000 .. $10,000
Rate: $5 .. $30

73933



Equation has negative y-intercept and positive slope.
Base: 5C .. 25C
Rate: .2C .. 5.2C

73935



Equation has negative y-intercept and negative slope.
Base: 100ft .. 1000ft
Rate: 10ft .. 100ft

Assistment #61768 "61768 - Linear Equation from Situation Phone"

A phone company charges a base price of $%v{base} plus $%v{rate} per minute for a call. If you were to graph the price of a phone call, where minutes is your independent variable (x) and cost is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

%v{rate}x+%v{base}

Hints:

- Recall that slope-intercept form is y=mx + b
Where m is the slope and b is the y-intercept.

- The slope of the line is the **rate** at which the cost of a phone call changes for each minute that passes.
The rate at which the cost increases is $%v{rate} per minute.
The slope of the line would be m=%v{rate}

- The y-intercept is cost of a call where x (or the independent variable) is equal to 0.
When the number of minutes is equal to 0, the price of the call is %v{base}.
On a graph the y-intercept would be b=%v{base}.

- The equation of the line would be y=%v{rate}x+%v{base}

Assistment #62234 "62234 - Linear Equation from Situation Bank"

A bank account currently has a balance of $%v{base}. Each month, $%v{rate} is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one, where months is your independent variable (x) and the balance is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

%v{base}-%v{rate}x

Hints:

- Recall that slope-intercept form is $y=mx+b$ Where m is the slope and b is the y-intercept.

-

The slope of the line is the **rate** at which the balance of the bank account changes for each month that passes. The rate at which the balance decreases is $%v{rate} per month.

The slope of the line would be $m=%v{-rate}$

- The y-intercept is the balance of the bank account where x (or the independent variable) is equal to 0. When the number of months passed is equal to 0, the balance of the bank account is %v{base}.

On a graph the y-intercept would be $b=%v{base}$.

- The equation of the line would be $y=%v{-rate}x+%v{base}$

Assistment #62234 "62234 - Linear Equation from Situation Bank"

A bank account currently has a balance of $%v{base}. Each month, $%v{rate} is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one, where months is your independent variable (x) and the balance is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

%v{base}-%v{rate}x

Hints:

- Recall that slope-intercept form is $y=mx+b$ Where m is the slope and b is the y-intercept.

-

The slope of the line is the **rate** at which the balance of the bank account changes for each month that passes. The rate at which the balance decreases is $%v{rate} per month.

The slope of the line would be $m=%v{-rate}$

- The y-intercept is the balance of the bank account where x (or the independent variable) is equal to 0. When the number of months passed is equal to 0, the balance of the bank account is %v{base}.

On a graph the y-intercept would be b=%v{base}.

- The equation of the line would be y=%v{-rate}x+%v{base}

Assistment #73933 "73933 - Linear Equation from Situation Freezer"

A deep freezer has a temperature of %v{base}°C when it is turned off. The temperature then rises at %v{rate}°C per minute. If you were to graph the temperature of the deep freezer x minutes after it is turned off where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

%v{rate}x+%v{base}

Hints:

- Recall that slope-intercept form is y=mx + b
Where m is the slope and b is the y-intercept.

- The slope of the line is the **rate** at which the temperature of the deep freezer changes for each minute that passes.

The rate at which the temperature increases is %v{rate}°C per minute.
The slope of the line would be m=%v{rate}

- The y-intercept is cost of a call where x (or the independent variable) is equal to 0. When the number of minutes is equal to 0, the temperature of the deep freezer is %v{base}. On a graph the y-intercept would be b=%v{base}.

- The equation of the line would be y=%v{rate}x-%v{-base}

Assistment #73935 "73935 - Linear Equation from Situation Submarine"

A submarine is being tracked underwater. At the beginning of the tracking the submarine is at a depth of %v{base} feet below sea level. The submarine is descending at %v{rate} feet per minute. If you were to graph the elevation, where minutes passed since the tracking started is your independent variable (x) and elevation above sealevel is your dependent variable (y),what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

%v{-rate}x-%v{base}

Hints:

- Recall that slope-intercept form is y=mx + b
Where m is the slope and b is the y-intercept.

- The slope of the line is the rate at which the elevation of the submarine changes for each minute that passes.

The rate at which the elevation decreases is %v{rate} feet per minute.
The slope of the line would be m=%v{rate}

- The y-intercept is the elevation of the submarine where x (or the independent variable) is equal to 0.
When the number of minutes passed is equal to 0, the elevation of the submarine is %v{-base}.
On a graph the y-intercept would be b=%v{-base}.

- The equation of the line would be y=-%v{rate}x-%v{base}

1) Assistment #93114 "93114 - Linear Equation from Situation Bank"

A bank account currently has a balance of $3058. Each month, $20 is withdrawn to pay for a monthy magazine subscription. If you were to graph the balance of the bank account x months after the current one, where months is your independent variable (x) and the balance is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

3058-20x

Hints:

- Recall that slope-intercept form is y=mx+b
Where m is the slope and b is the y-intercept.

-

The slope of the line is the **rate** at which the balance of the bank account changes for each month that passes.
The rate at which the balance decreases is $20 per month.

The slope of the line would be m=-20

- The y-intercept is the balance of the bank account where x (or the independent variable) is equal to 0.
When the number of months passed is equal to 0, the balance of the bank account is 3058.

On a graph the y-intercept would be b=3058.

- The equation of the line would be y=-20x+3058

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2) Assistment #93115 "93115 - Linear Equation from Situation Freezer"

A deep freezer has a temperature of -22°C when it is turned off. The temperature then rises at 3.1°C per minute. If you were to graph the temperature of the deep freezer x minutes after it is turned off where minutes passed is your independent variable (x) and temperature is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

3.1x+-22

Hints:

- Recall that slope-intercept form is $y=mx+b$

Where m is the slope and b is the y-intercept.

- The slope of the line is the **rate** at which the temperature of the deep freezer changes for each minute that passes.

The rate at which the temperature increases is 3.1°C per minute.
The slope of the line would be m=3.1

- The y-intercept is cost of a call where x (or the independent variable) is equal to 0. When the number of minutes is equal to 0, the temperature of the deep freezer is -22. On a graph the y-intercept would be b=-22.

- The equation of the line would be y=3.1x-22

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3) Assistment #93116 "93116 - 61768 - Linear Equation from Situation Phone"

A phone company charges a base price of $1.56 plus $0.25 per minute for a call. If you were to graph the price of a phone call, where minutes is your independent variable (x) and cost is your dependent variable (y), what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

0.25x+1.56

Hints:

- Recall that slope-intercept form is $y=mx+b$

Where m is the slope and b is the y-intercept.

- The slope of the line is the **rate** at which the cost of a phone call changes for each minute that passes.

The rate at which the cost increases is $0.25 per minute.
The slope of the line would be m=0.25

- The y-intercept is cost of a call where x (or the independent variable) is equal to 0.
When the number of minutes is equal to 0, the price of the call is 1.56.
On a graph the y-intercept would be b=1.56.

- The equation of the line would be y=0.25x+1.56

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4) Assistment #93117 "93117 - Linear Equation from Situation Submarine"

A submarine is being tracked underwater. At the beginning of the tracking the submarine is at a depth of 223 feet below sea level. The submarine is descending at 53 feet per minute. If you were to graph the elevation, where minutes passed since the tracking started is your independent variable (x) and elevation above sealevel

is your dependent variable (y),what would be the equation of the line? Write your equation in the form y = _____.

Algebra:

-53x-223

Hints:

- Recall that slope-intercept form is y=mx + b
Where m is the slope and b is the y-intercept.

- The slope of the line is the rate at which the elevation of the submarine changes for each minute that passes.
The rate at which the elevation decreases is 53 feet per minute.
The slope of the line would be m=53

- The y-intercept is the elevation of the submarine where x (or the independent variable) is equal to 0.
When the number of minutes passed is equal to 0, the elevation of the submarine is -223.
On a graph the y-intercept would be b=-223.

- The equation of the line would be y=-53x-223