DAILY LESSON PLAN

Week of:	Date	Grade	Subject
March 25th	3/27/07		algebra II MATH

General Topic: Solving systems of linear equations

Today's Topic: solving systems of linear inequalities

Expected Student Learning Outcomes

A.2.P10

What will students know and be able to do as a result of today's lesson?

TO

Standards Addressed:

Which learning standard from the MA Frameworks or WPS curriculum does today's lesson address?

1. Number Sense
2. Patterns, Relations & Functions
3. Geometry & Measurement
4. Statistics & Probability

School Improvement Plan

Which (if any) literacy strategy does today's lesson address?

LEARN TO READ/READ TO LEARN

Pre-Reading	Guided Reading	Post Reading
____Preview Text	____Make connections	____Low Stakes Writing
____Ask Questions	____Visualize	____Projects
____Activate Prior Knowledge	____Think aloud strategy	____Presentations

LEARN TO WRITE/WRITE TO LEARN

____"I wonder" log entries	____Letters	____Metacognitive Logs
____ Exit slips	____2 Column notes	

____ Solve problems using linear equations/inequalities

____ Apply algebraic and graphical methods to solutions

Outline of Lesson Activities: (to be posted on classroom agenda)

Discuss HW: pg. 203 # 33-38

Review Ch. 3 → jeopardy

HW: pg ~~884~~ #39-41

Assessment:

How will you assess students' understanding of today's lesson?

Test – Quiz – Verbal Questioning – Group Work – Homework (written or reading) –

Project Presentation – Portfolios –

Other :

Jeopardy

Matrix:

100 –Label each part of the matrix:

$$\begin{matrix}1 & 2 & 3\\ 4 & 4 & 6\\ 7 & 3 & 5\end{matrix}\quad\begin{matrix}X\\ Y\\ Z\end{matrix}\quad=\quad\begin{matrix}20\\ 15\\ 10\end{matrix}$$

200- Write a matrix for : $x - 2y + 4z = -8$, $2x + 2y - z = 11$, $Z + 2y = 10$

$$\begin{matrix}1 & -2 & 4\\ 2 & 2 & -1\\ 0 & 2 & 1\end{matrix}\quad\begin{matrix}X\\ Y\\ Z\end{matrix}\quad\begin{matrix}-8\\ 11\\ 10\end{matrix}$$

300 - Find the inverse of $\begin{matrix}3 & -1\\ 5 & -2\end{matrix}$

400- Solve the system of Equations using the matrix method.

$x - 2y + 3z = -3$
$2x - 3y - z = 7$ $= (1, -1, 2)$
$3x + y - 2z = 6$

500 - Solve the system of Equations using the matrix method.

$2/3\ x + 4/3\ y = -7$ $= (-1.5, -4.5)$
$3x + y = -9$

Graphing: (can use calculators)

100- Draw an example of a consistent, inconsistent, and (explain) dependent system?

200 - What is the solution to the system of equations? Is it consistent or inconsistent?

$Y = 3 + x$ $= (2,5)$ consistent
$Y = -x + 7$

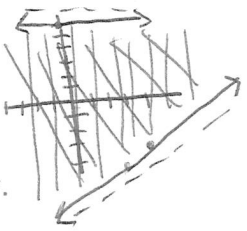
300 - What is the solution to the system of equations? Is it consistent or inconsistent?

$Y = 2x + 5$ = parallel lines, no solution, inconsistent
$Y = 2x - 3$

400 Graph the Inequality.

x	y
4	-3
3	-4

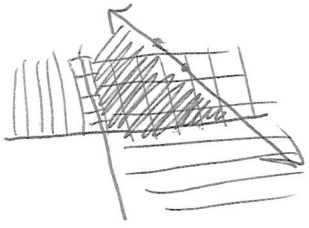
Y < 6
Y > x - 7



500 Graph the Inequality.

$X > 0$
$Y > 0$
$X + y < 8$
$y < 8 - x$

x	y
4	4
3	5



3 Variable Systems:

100 – How many solutions are in a system of equations with 3 variables?

=3

200 - Write the system of equations

A market sells 3 types of bread.

	Honey Wheat	Pumpernickel	French	Total
Cust. 1	5 loaves	0	2	5.50
Cust 2.	2	4	7	6.75
Cust 3	1	3	0	3.00

x=2
2x + 3z = 13 = (2,5,3)
x – 3y + z = - 10

300 X + 2Y+ Z=1
5Y – 2Z = -16
Z= 3 =(2, -2, 3)

400 x=2
2x + 3z = 13 = (2,5,3)
x – 3y + z = - 10

500 *DAILY DOUBLE*
X – Y + Z = 5
3X + 2Y – Z = -2
2X + Y + 3Z = 10 = (1, -1, 3)

DAILY LESSON PLAN

Week of:	Date	Grade	Subject
March 25	3/28/07	Alg II	MATH

General Topic: Solving Systems of Linear Equations

Today's Topic: Solving systems of Linear Equations with 3 var.

Expected Student Learning Outcomes

What will students know and be able to do as a result of today's lesson?

To solve systems of equations with 3 variables and review how to solve all systems and techniques

Standards Addressed: A.II P10

Which learning standard from the MA Frameworks or WPS curriculum does today's lesson address?

1. Number Sense
2. Patterns, Relations & Functions
3. Geometry & Measurement
4. Statistics & Probability

School Improvement Plan

Which (if any) literacy strategy does today's lesson address?

LEARN TO READ/ READ TO LEARN

Pre-Reading	Guided Reading	Post Reading
____Preview Text	____Make connections	____Low Stakes Writing
____Ask Questions	____Visualize	____Projects
____Activate Prior Knowledge	____Think aloud strategy	____Presentations

LEARN TO WRITE/WRITE TO LEARN

____"I wonder" log entries	____Letters	____Metacognitive Logs
____ Exit slips	____2 Column notes	

✓ Solve problems using linear equations/inequalities

✓ Apply algebraic and graphical methods to solutions

Outline of Lesson Activities: (to be posted on classroom agenda)

Discuss HW pg. 881 # 39-41

Individual work pg. 222 # 1-3 & discuss/correct

Group work pg. 224 # 1-14, 7-17 discuss

HW pg. 226 # 1-8

- Tell them to be prepared to ask any questions tomorrow as review.

Assessment:

How will you assess students' understanding of today's lesson?

Test – Quiz – Verbal Questioning – Group Work – Homework (written or reading) –

Project Presentation – Portfolios –

Other :

HW pg. 881 # 39-41

39. $x=2$

$x+y=5$ $(2,3,1)$

$x+y+z=6$

$2+y=5$

$-2 \quad -2$

$y=3$

$2+3+z=6$

$5+z=6$

$-5 \quad -5$

$z=1$

40. $x+y=2$

$x+y+3z=0$

$2x+y=3$

$-(x+y=2)$

$2x+y=3$

$-x-y=-2$

$x=1$

$1+y=2$

$-1 \quad -1$

$y=1$

$1+1+3z=0$

$2+3z=0$

-2

$\frac{3z}{3}=\frac{-2}{3}$

$z=-2/3$

$(1,1,-2/3)$

41. $x+y+z=4$

$2(2x+y=0)$

$3x-2y=1$

$4x+2y=0$

$\frac{7x}{7}=\frac{1}{7} \quad x=\frac{1}{7}$

$2\cdot\frac{1}{7}+y=0$

$\frac{2}{7}+y=0$

$-2/7 \quad -2/7$

$y=-2/7$

$\frac{1}{7}-\frac{2}{7}+z=4$

$-\frac{1}{7}+z=4$

$+1/7$

$z=29/7$

$\left(\frac{1}{7},-\frac{2}{7},\frac{29}{7}\right)$

224 # 1-4 & 7,-17 Graphwork

1. inconsistent

2. $y = 5x$

$\frac{2y}{2} = \frac{10x}{2}$ infinite

$y = 5x$

3. Linear Combination

4. Inverse

7. ~~$y = 2x + 5$~~

$-(y = -7 + 2x)$ NO solutions

$y = -2x + 7$

$0 = 12$

8. $2(-x + 6y = -1)$

$2x - 2y = 5$

$-2x + 12y = -2$

$y = 3/10$

$x = 14/5$

$\frac{10y}{10} = \frac{3}{10}$

$y = 3/10$

$2x - \frac{1}{2} \cdot \frac{3}{10_5} = 5$

$2x - \frac{3}{5} = 5 \; {}_{\frac{25}{5}} + \frac{3}{5}$

$+3/5$

$\frac{2x}{2} = \frac{14}{28/5} \cdot \frac{1}{2} = 14/5$

$x = 14/5$

grap work

13-15- write matrix

10. $x-y+2z=4$

$3x+y-z=16$

$-2x+4y+3z=-6$

$x-y+2z=4$

$3x+y-z=16$

$4x-z=20$

$4(x-y+2z=4)$

$-2x+4y+3z=-6$

$4x-4y+8z=16$

$2x+11z=10$

$4x-z=20$

$-2(2x+11z=10)$

$-4x-22z=-20$

$\frac{-23z}{-23}=\frac{0}{-23}$

$z=0$

$4x-0=20$

$\frac{4x}{4}=\frac{20}{4}$

$x=5$

$5-y+2(0)=4$

$5-y=4$

$-5 \quad -5$

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

$y=1$

$(5,1,0)$

DAILY LESSON PLAN

Week of:	Date	Grade	Subject
March 25, 2007	3/29/07	11	Alg II MATH

General Topic: Solving Systems of Equations

Today's Topic: Solving systems with 2 variables

Expected Student Learning Outcomes

What will students know and be able to do as a result of today's lesson? Solve systems of linear equations with 2 variables using substitution & linear combination.

Standards Addressed:

Which learning standard from the MA Frameworks or WPS curriculum does today's lesson address?

1. Number Sense
2. Patterns, Relations & Functions
3. Geometry & Measurement
4. Statistics & Probability

School Improvement Plan

Which (if any) literacy strategy does today's lesson address?

LEARN TO READ/ READ TO LEARN

Pre-Reading	Guided Reading	Post Reading
____Preview Text	____Make connections	____Low Stakes Writing
____Ask Questions	____Visualize	____Projects
____Activate Prior Knowledge	____Think aloud strategy	____Presentations

LEARN TO WRITE/WRITE TO LEARN

____"I wonder" log entries	____Letters	____Metacognitive Logs
____ Exit slips	____2 Column notes	

✓ Solve problems using linear equations/inequalities

✓ Apply algebraic and graphical methods to solutions

Outline of Lesson Activities: (to be posted on classroom agenda)

(50 min class)

Correct HW pg. 226 #1-8

Discuss Linear systems of Equations and how to solve them in many different ways before chapter test.

- Last minute questions.

HW pg. 881 #42-44

Assessment:

How will you assess students' understanding of today's lesson?

Test – Quiz – Verbal Questioning – Group Work - Homework (written or reading) –

Project Presentation - Portfolios –

Other :

March 29, 2017

Homework pg. 226 #1-8

2. $(4x-3y=7)\cdot(-3)$

$-12x+9y=-21$

$12x-9y=7$

$0=-14$ NO solution

1. $x+y=9$

$5x-y=3$

$6x=12$

$\frac{6x}{6}=\frac{12}{6}$

$x=2$

$2+y=9$

$-2 \quad -2$

$y=7$

3. $3x+y=5$

$2y=10-6x$

$+6x$

$6x+2y=10$

$-2(3x+y=5)$

$-6x-2y=-10$

$0=0$ infinite solutions

4. $(-5,3)$

$3x+2y=9$

$-x+4y=17$

$3(-5)+2(3)=9$

$-15+6=-9$

Not a sol.

5. a. $3x+y=5$

$6x+7y=8$

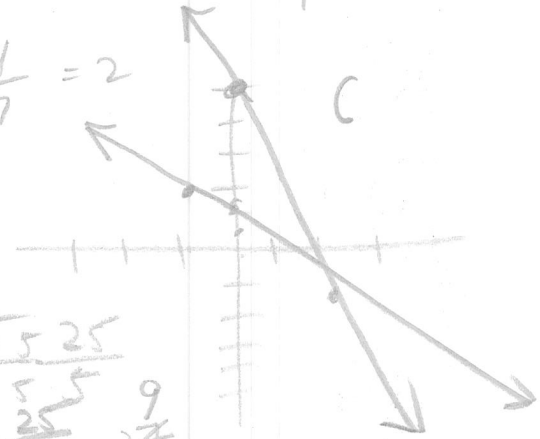
$y=-3x+5$

$y=-\frac{6}{7}x^2+8/7$

x	y
0	5
2	-1

x	y
-1	2
0	8/7

$-\frac{6}{7}+\frac{8}{7}=\frac{14}{7}=2$



$7y=-6x+8$

Linear combo

C: $-2(3x+y=5)$

$6x+7y=8$

$-6x-2y=-10$

$5y=-2$

$\frac{5y}{5}=\frac{-2}{5}$

$y=-2/5$

$-3x-\frac{2}{5}=5+\frac{2}{5}$

$+\frac{2}{5}$

$-3x=\frac{2}{5}$

$x=9/5$

$5 \quad 5 \quad 25$

$+\frac{25}{5} \quad \frac{9}{5}$

$\frac{-3x}{3}$

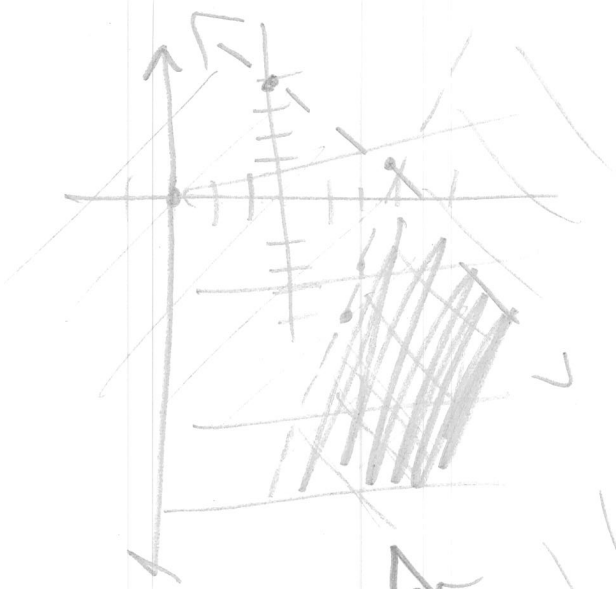
7. $x+y < 4$ $\quad y < -x+4$

$2x-y > 6$ $\quad y < +2x-6$

$x \geq -3$ $\quad x \geq -3$

x	y
0	4
3	1

x	y
1	-4
2	-2



8. $x \geq 0$

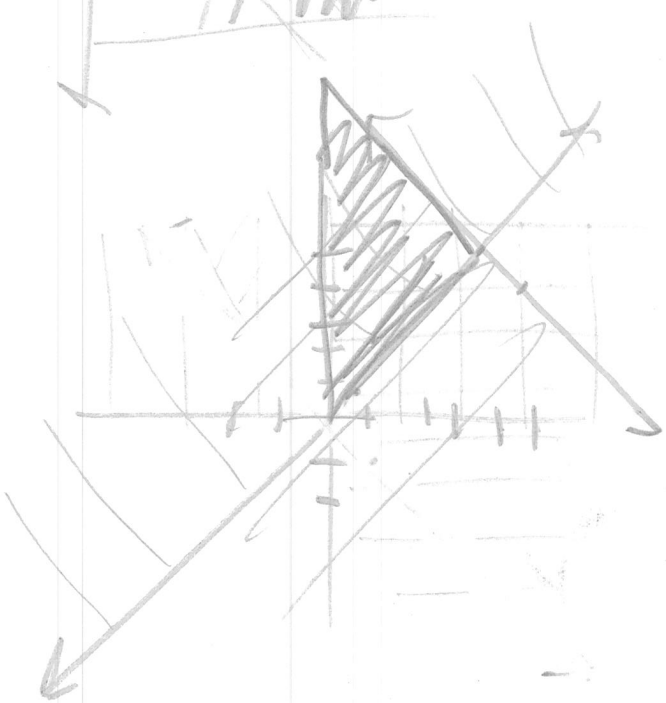
$y \geq 0$

$x+y \leq 9$ $\quad y \leq -x+9$

x	y
4	5
5	4

$y \geq 1.5x$

x	y
0	0
1	1.5



March 29, 2007

HW pg. 226 # 1-8

DAILY LESSON PLAN

Week of:	Date	Grade	Subject
March 25, 2007	3/30/07	11	Alg II MATH

General Topic: Solving Systems of Linear Equations

Today's Topic: Solving System with 3 variables (HW)

Expected Student Learning Outcomes

What will students know and be able to do as a result of today's lesson? Being able to solve linear equations systems with 2 & 3 variables using graphing substitution, Linear combination and solving linear inequalities (Ch. 3 test)

Standards Addressed:

Which learning standard from the MA Frameworks or WPS curriculum does today's lesson address?

1. Number Sense
2. Patterns, Relations & Functions
3. Geometry & Measurement
4. Statistics & Probability

School Improvement Plan

Which (if any) literacy strategy does today's lesson address?

LEARN TO READ/ READ TO LEARN

Pre-Reading	Guided Reading	Post Reading
____Preview Text	____Make connections	____Low Stakes Writing
____Ask Questions	____Visualize	____Projects
____Activate Prior Knowledge	____Think aloud strategy	____Presentations

LEARN TO WRITE/ WRITE TO LEARN

____"I wonder" log entries	____Letters	____Metacognitive Logs
____ Exit slips	____2 Column notes	

✓ Solve problems using linear equations/inequalities

✓ Apply algebraic and graphical methods to solutions

Outline of Lesson Activities: (to be posted on classroom agenda)

Correct HW pg. 881 #42-44

Last Minute Questions on Solving Systems of Linear Equations.

Test on Chapter 3.

HW pg. 230 #1-27

Assessment:

How will you assess students' understanding of today's lesson?

Test – Quiz – Verbal Questioning – Group Work – Homework (written or reading) –

Project Presentation – Portfolios –

Other :

(44) $4x+y+2z=3$

$2x+3y+z=6$

$2x-3z=-12$

$4x+y+2z=3$

$-2(2x+3y+z=6)$

$-4x-6y-2z=-12$

$-5y=-9$

$\frac{-5y}{5}=\frac{-9}{-5}$ = $\boxed{9/5=y}$

$2x+3y+z=6$

$-(2x-3z=-12)$

$-2x+3z=12$

$3y+4z=18$

$3\frac{9}{5}+4z=18$

$-\frac{18}{5}+4z=18-\frac{18}{5}$ $\frac{90}{5}$

$\frac{4z}{4}=\frac{72}{5}\cdot\frac{1}{4}$ $\boxed{z=\frac{18}{5}}$

$4x+\frac{9}{5}+2\cdot\frac{18}{5}=3$

$4x+\frac{9}{5}+\frac{36}{5}=3$

$4x+\frac{45}{5}=3$

$4x+9=3$

$-9\ -9$

$\frac{4x}{4}=\frac{-6}{4}$ $\boxed{x=-3/2}$

$4(-\frac{3}{2})+\frac{9}{5}+2(\frac{18}{5})$

$\frac{-12}{2}+\frac{9}{5}+\frac{36}{5}$

$-6+\frac{45}{5}=$

$-6+9=3$

43. $2x+2y-z=2$

$3x+y+2z=22$

$x-y+2z=10$

$3x+y+2z=22$

$x-y+2z=10$

$4x+4z=32$

$2x+2y-z=2$

$2(x-y+2z=10)$

$2x-2y+4z=20$

$4x+3z=22$

$4x+4z=32$

$-(4x+3z=22)$

$-4x-3z=-22$

$z=10$

$4x+30=22$

$-30\quad -30$

$\frac{4x}{4}=\frac{-8}{4}$ $x=-2$

$-2-y+2(10)=10$

$-2-y+20=10$

$-20\quad -20$

$-2-y=-10$

$+2\quad +2$

$\frac{-y}{-1}=\frac{-8}{-1}$ $y=8$

$(-2, 8, 10)$

44. $4x+y+2z=3$

$2x+3y+z=6$

$2x-3z=-12$

$2(2x+3y+z=6)$

$4x+6y+2z=12$

$2x+3y+z=6$

$-(2x-3z=-12)$

$3y+3z=18$

$2x-\frac{3\cdot 63}{20}=-12$

$-2x+3z=12$

$\frac{-5y}{-5}=\frac{-9}{-5}$ $y=\frac{9}{5}$

$3y+4z=18$

$3(\frac{9}{5})+4z=18$

$2x-\frac{189}{20}=-12$

$\frac{27}{5}+4z=18$ $-\frac{24}{5}$ $\frac{90}{5}$

$\frac{4z}{4}=\frac{63}{5}\cdot\frac{1}{4}$

$+\frac{189}{20}\quad -\frac{240}{20}=\frac{51}{20}$

$x=\frac{51}{20}$

$z=\frac{63}{20}$

Name: _____
Chapter 3 Test
Systems of Linear Equations

1. A system of consistent linear equations in two variables has _____ solutions.

   (a) 0 (b) 1 (c) 2 (d) at least 1 answer: _____

2. A system of inconsistent linear equations in two variables has _____ solutions.

   (a) 0 (b) 1 (c) 2 (d) at least 1 answer: _____

Solve each system of linear equations if possible.

3. $5x + 2y = -4$
   $5x - 2y = -6$

4. $y = 2x + 4$
   $x - 4y = -7$

DAILY LESSON PLAN

Week of:	Date	Grade	Subject
April 1, 2007	4/2/2007	11	Alg II MATH

General Topic: Arithmetic series

Today's Topic: Rational and Irrational numbers

Expected Student Learning Outcomes

What will students know and be able to do as a result of today's lesson?

To simplify square root expressions and examine mathematical structures with in Real #'s.

Standards Addressed:

Which learning standard from the MA Frameworks or WPS curriculum does today's lesson address?

1. Number Sense
2. Patterns, Relations & Functions
3. Geometry & Measurement
4. Statistics & Probability

School Improvement Plan

Which (if any) literacy strategy does today's lesson address?

LEARN TO READ/ READ TO LEARN

Pre-Reading	Guided Reading	Post Reading
____Preview Text	____Make connections	____Low Stakes Writing
____Ask Questions	____Visualize	____Projects
____Activate Prior Knowledge	____Think aloud strategy	____Presentations

LEARN TO WRITE/WRITE TO LEARN

____"I wonder" log entries	____Letters	____Metacognitive Logs
____ Exit slips	____2 Column notes	

✓ Solve problems using linear equations/inequalities

✓ Apply algebraic and graphical methods to solutions

Outline of Lesson Activities: (to be posted on classroom agenda)

SAT Questions

Discuss HW pg. 230 # 1-27

Notes: Real #'s, Rational, Irrational, integers.

Pythagorean Theorem

Perfect Squares

Rules for simplifying square roots

- add, subtract, multiply, divide

DO pg. 281 Try it together

HW pg. 285 # 59-63

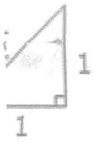
Assessment:

How will you assess students' understanding of today's lesson?

Test – Quiz – Verbal Questioning – Group Work – Homework (written or reading) –

Project Presentation – Portfolios –

Other :



April 2, 2007
Algebra II

SAT Question
Discuss HW: pg. 230 # 1-27

Notes:
Real #'s: Any number that you would expect to find on the number line. Decimal numbers or all the numbers on the number line. (6, -7.2, pi)

Integers: Whole numbers and their opposites. (13, -4, 0, 500)

Rational: Whole numbers, fractions, mixed numbers, and decimals; together with their negative images.

As a fraction $\frac{a}{b}$, where a and b are integers ($b \neq 0$).

- Their ratio can always be named. Hence the term, *rational* number
- Now a fraction can always be expressed as a decimal.
- Either the decimal will terminate -- as 1/4 = .25; or
- the decimal will have a predictable pattern -- as 1/11 = .090909. . .
- A rational number, then, can always be expressed as such a decimal.

Now you might say well then what number is not rational?

An example of such a number is $\sqrt{2}$ ("Square root of 2") .

There is no whole number, no fraction, and no decimal whose square is 2.

$\sqrt{2} \approx 1.414$.

Have students put it in their calculators. Find the square root of 2 then multiply it by itself and it does not equal 2.

But it should be clear that no decimal squared will ever produce exactly 2.

So the $\sqrt{2}$ is an irrational number.

Irrational: when an irrational number is stated as a decimal there will not be a predictable pattern of digits.

$\sqrt{3}$

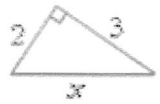
$\sqrt{5}$, $\sqrt{6}$, $\sqrt{7}$, $\sqrt{8}$ **Irrational**

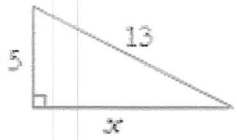
Only the square roots of square numbers are rational. Ex $\sqrt{4} = 2$ **Rational**

By recalling the Pythagorean theorem, we can see that these irrational numbers are necessary. For if the sides of an isosceles right triangle are called 1, then we will have $1^2 + 1^2 = 2$, so that the hypotenuse is $\sqrt{2}$. There really is a length that

logically deserves the name, "$\sqrt{2}$." Insofar as *numbers* name the length of lines, then $\sqrt{2}$ is a number.

Pythagorean Theorem: $a^2 + b^2 = c^2$

a) 

b) 

In figure a), the hypotenuse is unknown. We have

$x^2 = 2^2 + 3^2$
$= 4 + 9$
$= 13$
$x = \sqrt{13}$

In figure b), it is the side that is unknown:

$x^2 + 5^2 = 13^2$
$x^2 = 169 - 25$
$= 144$
$x = \sqrt{144} = 12$

Perfect Square: a whole number which is the square of some other whole number. 0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100 which are the squares of 0, 1, 2, 3, 4, 5, 6 , 7, 8, 9 ,10.

Rules for Simplifying Square Roots

When adding or subtracting you must have the same number in the radical.
Examples:

$2\sqrt{3} + 3\sqrt{3} = 2\sqrt{3} + 3\sqrt{3} = 5\sqrt{3}$

$\sqrt{12} - 5\sqrt{7} + 6\sqrt{3} = \sqrt{3 \times 4} - 5\sqrt{7} + 6\sqrt{3} = 2\sqrt{3} - 5\sqrt{7} + 6\sqrt{3} = 8\sqrt{3} - 5\sqrt{7}$

When multiplying: $\sqrt{a}\ \sqrt{b} = \sqrt{ab}$

Example:

$\sqrt{3x} \times \sqrt{6x} =$

$2\sqrt{3x} \times \sqrt{6x} =$

When Dividing: $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

Example: $\sqrt{\frac{36}{4}} = \frac{6}{2} = 3$

$\sqrt{\frac{45}{4}} = \frac{\sqrt{45}}{\sqrt{4}} = \frac{\sqrt{9} \times \sqrt{5}}{2} = \frac{3\sqrt{5}}{2}$

Do pg. 281 Try It (together)

Groupwork: 283 # 17-28
Discuss
HW: PG. 285 #59-63

Try It pg. 281

d. $\sqrt{\frac{18}{100}} = \frac{\sqrt{9 \cdot 2}}{10} = \frac{3\sqrt{2}}{10}$

e. $-2\sqrt{3w^2} = -2w\sqrt{3}$

f. $8\sqrt{11} + 7\sqrt{5} - 2\sqrt{44}$

$8\sqrt{11} + 7\sqrt{5} - 2\sqrt{11 \cdot 4}$

$8\sqrt{11} + 7\sqrt{5} - 4\sqrt{11}$

$\boxed{4\sqrt{11} + 7\sqrt{5}}$

g. $3\sqrt{5k} \cdot 4\sqrt{15k}$

$= 12\sqrt{75k^2} = 12 \cdot 5 \cdot k\sqrt{3}$

$25 \cdot 3 \cdot k^2 \quad = 60k\sqrt{3}$

283. (17) $\sqrt{4p^2} = 2p$ (18) $5\sqrt{2} + 9\sqrt{2} = 14\sqrt{2}$

(19) $\frac{\sqrt{72} - \sqrt{50}}{\sqrt{36 \cdot 2} - 25 \cdot 2}$

$6\sqrt{2} - 5\sqrt{2} = \sqrt{2}$

(20) $\sqrt{18}\sqrt{8} = \sqrt{144} = 12$

(21) $(7\sqrt{3})^2 \quad 49 \cdot 3 = 147$

(22) $12\sqrt{75} \cdot 0.5\sqrt{12y^2}$

$6\sqrt{900y^2} = 30y \cdot 6 =$

$= 180y$