Pre-Algebra

Agenda:
- **Fractions-Decimals-Percents**

To Do Now:
- **Complete Warm Up**
- **Homework on your desk (M&M Project)**

(Page 340 Redo, and 7-2 Word Problems D BLOCK)

Warm Up:
Represent 1/3% as a decimal.

$0.\overline{3}\%$ $0.00\overline{3}$

Homework:
- 7-2 Word Problems (A-Block)

Nov 4-10:28 AM

Fractions-Decimals-Percents

4 | 0.4

157%

5%	0.05	$\frac{1}{20}$
90%	0.9	$\frac{9}{10}$
60%	0.6	3/5
45.45%	$0.\overline{45}$	$\frac{5}{11}$
7.5%	.075	$\frac{3}{40}$
157%	1.57	1 4/7

$\frac{5}{100}$

$\frac{45}{99}$

0.454545

$\frac{75}{1000}$

Feb 16-7:39 AM

M&M Project

RED

BLUE

GREEN

BROWN

YELLOW

Mar 2-7:20 AM

Fractions-Decimals-Percents

%	DEC	FX
5%		
	0.9	
		3/5
	$0.\overline{45}$	
7.5%		
		1 4/7

$0.\overline{45} \rightarrow 0.45454545\ldots$

FX	DEC	PER
$\frac{5}{100} = \frac{1}{20}$	0.05	5%
$\frac{9}{10}$	0.9	90%
$\frac{3}{5}$	0.6	60%
$\frac{45}{99} = \frac{5}{11}$	$0.\overline{45}$	$45.\overline{45}\%$
$\frac{3}{40}$	0.075	7.5%
$1\frac{4}{7}$	1.57...	157%

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CONVERTING FROM FRACTIONS TO DECIMALS TO PERCENTS

Percent to fraction: Put the percent over 100 and reduce.
Percent to decimal: Divide by 100 or move the decimal two places to the left.
Decimal to fraction: Number to the left of the decimal is the whole number. Number to the right of the decimal is numerator. Place value of the last digit on the right is the denominator.
Decimal to percent: Move the decimal two places to right. (Multiply by 100)
Fraction to decimal: Divide bottom (denominator) into numerator.
Fraction to percent: Proportion $\frac{fraction}{fraction} = \frac{x}{100}$

Converting chart

Percent word problems

Recall:

"of" as a verbal phrase becomes:

"is" as a verbal phrase becomes:

Percent sentences:

"What is 5% of 20?" Can be translated word for word and solved.

Be careful how to handle the percent...change to a decimal first!

Percent sentence

Translate each sentence only!

1. Seventy percent of 120 is what number?

2. What is 8% of $12?

3. Nine is twenty percent of what number?

Translate practice

Percent Problems

If you buy a $24.00 shirt and have to pay 5% tax on that shirt, how much would the tax be? How much would you pay for the shirt and tax combined?

A CD normally costs $18.00. The Christmas sale shows a 10% discount. What is the amount taken off? What is the final sale price?

If there is a 5% sales tax on that CD, what is the final price of the CD? If the salesperson states that since she is going to take 10% off and then add 5% for the tax, would you mind if she just takes 5% off and that is all? Is it the same price? Show proof.

Percent word problems

Intro to-Algebra

Agenda:

- **Solving Systems of Equations**

To Do Now:

- **Have your homework on your desk (Page 408 #1 - 13)**
- **Complete Warm Up**

Warm Up:

- **Write a system of equations where there are NO points of intersection.**

$y = 2x + 3$

$y = 2x + 4$

Homework:

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$$x + y = 1$$
$$+ \quad (x - y = 2)$$
$$\rightarrow 2x = 3$$

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

$$\frac{3}{2} + y = 1 \quad -\frac{3}{2}$$

$$y = -\frac{1}{2}$$

$$\rightarrow y = 1 - x$$

$$x - (1 - x) = 2$$

$$3x - 8 = -\frac{1}{4}$$

$$4x - 1x - 8 = -\frac{1}{4}$$

Mar 2-8:37 AM

Linear Combinations

GOAL: *To eliminate ONE of the two variables.*
TOOLS: *Multiply one or both equations by a value.*
Add, Subtract the two equations from each other.

$$x - y = 9$$
$$+ \quad 5x + y = 18$$
$$6x = 27$$
$$x = \frac{9}{2}$$

$$5\left(\frac{9}{2}\right) + \left(-\frac{9}{2}\right) \stackrel{?}{=} 18$$
$$45 + (-9) \stackrel{?}{=} 36$$
$$36 = 36$$

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

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$2[-4x + 3y = 12]$
$3[3x + 2y = 8]$

$-8x + 6y = 24$
$-(9x + 6y = 24)$
$-17x = 0$

$x = 0$

$y = 4 \quad (0, 4)$

Mar 1-3:21 PM

$1.5x - 6.5y = 3.5$

$\frac{1}{2}x + 2y = -3$

$\left[\frac{3}{2}x - \frac{13}{2}y = \frac{7}{2}\right] 2$

$\left[\frac{1}{2}x + 2y = -3\right] 6$

$3x - 13y = 7$
$-(3x + 12y = -18)$
$-25y = 25$
$y = -1$

$\frac{1}{2}x + 2(-1) = -3$
$\frac{1}{2}x + (-2) = -3$
$\frac{1}{2}x = -1$
$x = -2$
$(-2, -1)$

Mar 2-8:51 AM

Advanced Algebra

Agenda:
- Multiplying & Dividing Radicals

To Do Now:
- Have your homework on your desk (Adding/Subtracting Radicals)
- Complete Warm Up

Warm Up:
- Simplify: $\left(\sqrt{5^2}\right)^2$

Homework:
- ????

$4+10$

$\sqrt{2}\sqrt{3}$

$\sqrt{6}$

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$3\sqrt{18} + 3\sqrt{12} + 2\sqrt{27}$

$3\sqrt{6}\sqrt{3} + 3\sqrt{4}\sqrt{3} + 2\sqrt{9}\sqrt{3}$

$3\sqrt{6}\sqrt{3} + 6\sqrt{3} + 6\sqrt{3}$

$3xy + 6x + 6x$

$3\sqrt{9}\sqrt{2} + 3\sqrt{4}\sqrt{3} + 2\sqrt{9}\sqrt{3}$

$9\sqrt{2} + 6\sqrt{3} + 6\sqrt{3}$

$9\sqrt{2} + 12\sqrt{3}$

PERFECT SQUARE

NON PERFECT SQUARE

Mar 2-12:35 PM

$$2\sqrt{20} - \sqrt{20} + 3\sqrt{20} - 2\sqrt{45}$$

$$2\sqrt{4}\sqrt{5} - \sqrt{4}\sqrt{5} + 3\sqrt{4}\sqrt{5} - 2\sqrt{9}\sqrt{5}$$

$$4\sqrt{5} - 2\sqrt{5} + 6\sqrt{5} - 6\sqrt{5}$$

$$2\sqrt{5}$$

$$\sqrt{18}$$

Mar 2-12:40 PM

$$\sqrt{\frac{A}{B}} = \frac{\sqrt{A}}{\sqrt{B}}$$

$$\sqrt{\frac{8}{27}} = \frac{\sqrt{8}}{\sqrt{27}} = \frac{2\sqrt{2}}{3\sqrt{3}}$$

YOU CAN NOT HAVE A RADICAL IN THE DENOMINATOR AS PART OF A FINAL ANSWER!

Mar 2-12:43 PM

$$\frac{2\sqrt{2}}{3\sqrt{3}}\cdot\frac{\sqrt{3}}{\sqrt{3}} \qquad \frac{2\sqrt{6}}{3\sqrt{9}} = \frac{2\sqrt{6}}{9}$$

$$\frac{\sqrt{16}\sqrt{2}}{\sqrt{75}} \qquad \frac{\sqrt{32}}{\sqrt{75}} \qquad \frac{4\sqrt{2}}{5\sqrt{3}}\left(\frac{\sqrt{3}}{\sqrt{3}}\right)$$

$$\frac{4\sqrt{6}}{15}$$

Mar 2-12:47 PM

#9 $\sqrt{y^2}\sqrt{y}$ $\sqrt{x^2}$ $\sqrt{y^3}$

x $\sqrt{y^2}\sqrt{y}$

$y\sqrt{y}$

$$\frac{\sqrt{3x^2y^3}}{4\sqrt{5xy^3}}$$

$$\frac{xy\sqrt{3y}}{4y\sqrt{5xy}} \qquad \frac{\sqrt{5xy}}{\sqrt{5xy}} \qquad \frac{xy\sqrt{15xy^2}}{4y(5xy)} \qquad \frac{xy^2\sqrt{15x}}{20xy^2}$$

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