Week 14 Pre-Algebra Assignment:

Day 1: pp. 260-261 #1-21, 23, 26, 30, 36, 37, 40, 42
Day 2: Chapter 6 test
Day 3: p. 268 #1-35 odd (Use calculators)
Day 4: p. 273 #1-18, 25-30 (Use calculators)
Day 5: p. 278-279 #1-9 odd, 12 (Use calculators)

Notes on Assignment:

Page 260-261 (#1-21, 23, 26, 30, 36, 37, 40, 42)

Work to show:
> #1-21: Show work for all calculations.
> #23, 26: Write the expression, substitute the values, and show work for calculations.
> #30: Show expression with (   ) cleared and then simplify
> #36-37: Show work solving equations and any calculations.
> #40, 42: These are 5-step problems. Number your steps.

Chapter Review – no notes

Chapter 6 test

For the test you need to be able to:
- Add and subtract fractions with common denominators and uncommon denominators
- Add and subtract mixed numbers.
- Multiply and divide fractions and mixed numbers.
- Add, subtract, multiply, and divide decimals.
- Evaluate expressions.
- Simplify expressions.
- Solve equations that have fractions or decimals in them.
- Word problems
- Extra credit: Change 2 repeating decimals into a fraction and then do a calculation.

Page 268 (#1-35 odd)

Work to show:
> #1-23: Write the problem and follow the processes outline below to work it out.
> #25-29: These problems each have 2 parts.
> #31-35: Write the proportion, draw the loops, and solve.

#1-5: To change a % to a fraction: Write the number over 100 and then simplify. Show what you are dividing by when you simplify. Example:

$$20\% = \frac{22}{100} \frac{\div 2}{\div 2} = \frac{11}{50}$$

#7-11: To change a percent to a decimal: Move the decimal point 2 places to the left and leave off the % symbol. Example:

$$8.5\% = .085$$

#13-17: To change a fraction to a %: For these problems, do the following (since all of the denominators can be changed to 100): Multiply the fraction by $\frac{\#}{\#}$ in order to get 100 in the denominator. The percent is the number out of 100, which is the numerator. Example:

$$\frac{7}{20} = \frac{?}{100}$$
$$\frac{7}{20} \cdot \frac{(5)}{(5)} = \frac{35}{100}$$
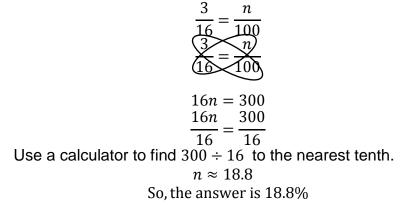$$answer:\ 35\%$$

#19-23: To change a decimal to a %: Move the decimal point 2 places to the right and add the % symbol. Example:

$$.305 = 30.5\%$$

#25-29: To change a fraction to a decimal, carry out the indicated division. (Take the numerator and divide it by the denominator.) Example:

$$\frac{3}{4} \to 3 \div 4 = .75 \text{ (using long division or a calculator)}$$

Then for the 2nd part of the answer, change the decimal to a % by writing 75%.

#31-35: When the denominator cannot be change to 100, use proportions to change a fraction to a percent. Example:

$$\frac{3}{16} = \frac{n}{100}$$
$$\frac{3}{16} = \frac{n}{100}$$
$$16n = 300$$
$$\frac{16n}{16} = \frac{300}{16}$$

Use a calculator to find $300 \div 16$ to the nearest tenth.
$$n \approx 18.8$$
So, the answer is 18.8%

Work to show:
  #1-6: Translate the expression the simplify using a calculator
  #7-18: Translate into an equation, then solve, showing what is being done to both
       sides. Use a calculator for any calculations.
  #25-30: Write a proportion for each problem, show loops, and solve.

#1-6: Example: $2.5\% \ of \ 20 \ translates \ to \ (.025)(20) = 0.5$

#7-18: These problems will be one of 3 types:

$8 \ is \ what \ \% \ of \ 40?$	What is 12% of 90?	$2\% \ of \ what \ number \ is \ 16?$
This translates to:	This translates to:	This translates to:
$8 = x \cdot 40$	$x = .12 \ \cdot 90$	$.02 \ \cdot n = 16$
Divide both sides by 40	$x = 10.8$	Divide both sides by .02
$x = \dfrac{8}{40} = 0.2$	$Answer:$ 10.8	$n = \dfrac{16}{.02}$
Since x was a % in decimal form, change 0.2 into a %.		$n = 800$
$Answer:$ 20%		$Answer:$ 800

#25-30: For all of these problems, set up a proportion. Here are the same problems from
    above done with proportions:

$8 \ is \ what \ \% \ of \ 40?$	What is 12% of 90?	$2\% \ of \ what \ number \ is \ 16?$
$\dfrac{8}{40} = \dfrac{x}{100}$	$\dfrac{x}{90} = \dfrac{12}{100}$	$\dfrac{16}{x} = \dfrac{2}{100}$
Use cross products and solve for x.	Use cross products and solve for x.	Use cross products and solve for x.
$Answer:$ 20%	$Answer:$ 10.8	$Answer:$ 800

Pages 278-279 (#1-9 odd, 12)

Work to show:
  #All problems: These are 5-step word problems. Number your steps.

All problems: Read the word problem and try and translate it into one of the 3 types of problems above. You can solve the problem using proportions or by solving the translated equation.

#1: When you see "40% of" that is going to translate to "40% *times*." Then ask 40% or *what*? In this case it's 40% of his cars sold are sedans. If he sells 26 sedans, then 40% of *the cars sold* is 26. That's what you let x equal.

#3: When you see the words "out of" or sometimes just "of" like in this problem, it's telling you how to set up a ratio. Twelve of the 50 would be written as $\frac{12}{50}$. Any ratio can be changed to a % by dividing out the fraction and then moving the decimal point. Let x equal the % (in decimal form).

#5: Think 35% of the students are Asian students. Translate this, putting x in for the amount that you don't know.

#7: You are being asked "What percent of $55 is $3.30?"

#9: How many "out of" 60 questions equals 85%?

#12: For this problem you need to use the fact that there are 365 days in a year. 20% of these 365 days have rain. Keep in mind that you are being asked how many days did **not** get rain. If it rains 20% of the time, then it does not rain 80% of the time. Let x= the number of days with no rain.