

## Week 15 Pre-Algebra Assignment:

Day 1: pp. 290-291 #1-33 odd, 35-40 (Use calculators)

Day 2: p. 295 #1-23 odd, 31-35 (Use calculators)

Day 3: pp. 300-301 #1-29 odd (Use calculators)

Day 4: pp. 305-306 #1-33 odd (Use calculators)

Day 5: p. 292 #47-56, p. 296 #44-53, p. 302 #52-55, p. 306 #42-52

### Notes on Assignment:

Pages 290-291 (#1-33 odd, 35-40)

#### **Work to show:**

#1-21: These problems have 2 parts. Show the numbers that are being calculated but then use your calculator for the actual answer.

#23-27: Show the numbers that are being calculated but then use your calculator for the actual answer.

#29-33: These problems have 2 parts. Show the numbers that are being calculated but then use your calculator for the actual answer.

#35-40: These are like the problems above. Show the same kind of work. These are not 5-step problems.

**All problems:** Do not just write a list of answers. Make sure you are showing what's being calculated. For example, for #1 you should have:

$$\text{Discount} = 0.4(40) = \$16$$

$$\text{Sale price} = 40 - 16 = \$24$$

#### General notes for this section:

- To find the discount: Multiply the retail price times the discount rate (as a decimal).
- To find the sale price: Calculate the discount and then subtract that from the retail price.
- To find the discount rate: Divide the discount amount by the retail price. Note that this will be a decimal amount that needs to be changed into a %.
- To find the markup: Multiply the cost times the markup rate (as a decimal).
- To find the retail price: Calculate the markup and then add it to the cost.
- To find the markup rate: Divide the markup by the cost. Note that this will be a decimal amount that needs to be changed into a %.

#35-40: These problems are all related to one story (about Jody). You need to figure out what you are being asked to find, and then use the notes above to help with your calculations.

Page 295 (#1-23 odd, 31-35)

**Work to show:**

- #1-5: Show the numbers that are being calculated but then use your calculator for the actual answer.
- #7-11: Show the numbers that are being calculated but then use your calculator for the actual answer.
- #13-23: These problems have 2 parts. Show the numbers that are being calculated but then use your calculator for the actual answer.
- #31-35: These are like the problems above. Show the same kind of work. These are not 5-step problems.

**All problems:** Do not just write a list of answers. Make sure you are showing what's being calculated. For example, for #1 you should have:

$$\text{earnings} = 0.07(4300) = \$301$$

General notes for this section:

- To find the earnings for sales and commissions: Multiply the sales times the commission rate (as a decimal).
- To find the tip: Multiply the money spent times the tip rate (as a decimal).
- To find the commission rate: Divide the earnings amount by the sales amount. Note that this will be a decimal amount that needs to be changed into a %.
- To find the amount of sales that generate a given amount of earnings: Translate this to say "The commission rate times the sales = the earnings." Fill in the rate and the earnings and solve for the amount of sales.

#32: You need to calculate the tip of 15% and 18%.

Pages 300-301 (#1-29 odd)

**Work to show:**

- #1-5: Write the formula for interest, fill it in, and then calculate the answer using your calculator.
- #7-15: These problems have 2 parts. Show the numbers that are being calculated but then use your calculator for the actual answer.
- #17-19: Answers only
- #21-29: You have multiple parts for these problems. See the instructions below.

#7: You first need to calculate the interest using  $I = prt$ . Remember that the time must be in years. For this problem you have 9 months, which is  $9/12$  of the year, which is .75. After you calculate the interest, use  $A = P + I$  to calculate the amount that has to be paid back.

#9: This time is not in years. Make sure to write 18 months in years.

#21-25: Find the interest earned after the first year and then add that to the principal. That's the amount in the account at the end of the first year. Then calculate interest on that new amount to find how much interest is earned in the 2<sup>nd</sup> year. The total on deposit will be the original principal plus the 2 amount of interest.

#27-29: For these problems, use the formula for compound interest  $S = P(1 + i)^n$  to find the amount in the account at the end of the number of years indicated. Then subtract the original principal amount from the amount in the account at the end of the time period to find out how much interest was earned.

### Pages 305-306 (#1-33 odd)

#### **Work to show:**

#All problems: Show the numbers that are being calculated but then use your calculator for the actual answer.

#1: For this problem, you will need to take 40 + 20% of 40. In other words, you are taking 100% of 40 + 20% of 40. The easiest way to do this is to take 120% of 40, which is 1.2(40).

#5: For this problem, you will need to take 35 – 20% of 35. In other words, you are taking 100% of 35 – 20% of 35. The easiest way to do this is to take 80% of 35.

#7-11: To find the % change you always take  $\frac{\text{amount of change}}{\text{original amount}}$  and then change it to a percent.

#13-23: These are done the same as #7-11 but you also need to state whether the change represents an increase or decrease. If the new amount is larger than what you started with it's an increase. Otherwise it's a decrease.

#25-29: Do these the same as the problems above. These are not 5-step problems.

### Page 292 (#47-56)

#### **Work to show:**

#47-50: Write the problem and show work.

#51-56: Answers only

#47-48: Get common denominators.

#49-50: Remember to write these as improper fractions first.

Page 296 (#44-53)

**Work to show:**

#44-48: These do not have to be done as 5-step problems. Use  $n$  for the number, write the equation, and show how to solve it.

#49-53: Show any work needed.

#49-53: Remember that the place values in base 2 are

$2^4 = 16$	$2^3 = 8$	$2^2 = 4$	$2^1 = 2$	$2^0 = 1$
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Page 302 (#52-55)

**Work to show:**

#52-55: Write the problem and show work.

Page 306 (#42-52)

**Work to show:**

#42-46: Show any work needed.

#47-52: Write the expression, fill it in with the given values, then simplify.

#48: When you put the 55 in, write it over 1 so that you can do the multiplication correctly. And remember to do the multiplication before you do the addition.