Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_

3.1 – 3.3 Review

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| **Solve using the PERCENT EQUATION: 3 is 19% of what number?**1. The equation formula is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. When solving an equation problem, **start by writing down the formula**.

**REMEMBER:** * Part - correlates to “IS”
* Percent - You must divide by 100 or simply **move the decimal TWO to the LEFT.**
* Whole – correlates to “OF”
1. Replace the words part, percent, and whole with the information from the problem.

 Part (IS) = 3 Part = Percent Whole Percent = 19/100 🡪 0.19  Whole (OF) = X 3 = 0.19 X1. **Solve for the missing variable**, or X, by doing **one of the following:**
* Divide by number attached to X
* Multiply the right side of the equation to solve for X.

 3 = 0.19x 0.19 0.191. Make sure your answer makes sense.
* If you are **finding percent**, remember to **move decimal TWO to the RIGHT.**

 3 x = 15.7894737 🡪 x = 15.8 0.19  |
| 1. What is 37% of 15?
 | 1. What is 62% of 91?
 |
| 1. 81 is what percent of 120?
 | 1. 16 is what percent of 80?
 |
| 1. 42% of what number is 72?
 | 1. 9% of what number is 89?
 |

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| **Solve using the PERCENT PROPORTION: 3 is 19% of what number?**1. The equation formula is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. When solving an equation problem, **start by writing down the formula**.
3. Replace the words is, of, and percent with the information from the problem.

**REMEMBER:** * Percent -Just get rid of the percent symbol (No moving of decimals!)
* Percent **ALWAYS** goes over 100.
1. **Cross multiply (Butterfly affect).**

 3 = 19 x  19 = 3  100 19x = 300 x 100  1. Divide by what is attached to x. Divide by this same number on BOTH SIDES.

 19x = 300 19 191. Round to the nearest tenth (one decimal point)

 300 x = 15.7894737 🡪 x = 15.8 19 |
| 1. What is 37% of 15?
 | 1. What is 62% of 91?
 |
| 1. 81 is what percent of 120?
 | 1. 16 is what percent of 80?
 |
| 1. 42% of what number is 72?
 | 1. 9% of what number is 89?
 |
| **Word Problems:**1. Instead of just writing the numbers down in the order they appear in the problem and then multiplying them, you must actually read the problem and think about what it is asking.
2. Circle, highlight, or underline any of the important information.
3. You might have to add or subtract numbers before you start plugging them into a formula.
4. Determine the best formula to use in order to solve for the missing term.

Some types of word problems:* **Problems dealing with quiz or test questions:**
	+ Use background knowledge of how a test score is set up at the top of your page when you get it back.
	+ Remember that (the number correct ÷ by the total number of points possible) then × 100 gives you your percentage on the test.
	+ Remember to THINK about where the numbers go into the formula. For example, a percent should always go over 100, NOT over the number representing the whole.
* **Problems dealing with the term “out of”:**
	+ These types of problems can be related back to quiz/test word problems. Think about a grade on a test. You might get a 35/40…This is read as 35 out of 40.
* **Problems dealing with the percentage of months:**
	+ Remember that there are 12 months in a year. Use this knowledge of 12 to be your WHOLE.
 |
| 1. Out of 2400 students of a school only 40% passed. Find how many students failed
 | 1. Jennifer made a fruit juice using red and green grapes. Thirty percent of the grapes are green. If she used a total of 60 grapes, how many red grapes should she use?
 |
| 1. Danny just hired a new employee to work in your bakeshop. In one hour the employee burned 625 chocolate chip cookies. If this represented 25% of the day’s production, how many cookies did you plan on producing that day?
 | 1. The lunch choices last Friday were mushroom or pepperoni pizza. The cafeteria made 46 pizzas in all, 23 of which were mushroom pizzas. What percentage of the pizzas were mushroom pizzas?
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| **SIMPLE INTEREST: A bank is offering 2.5% simple interest on a savings account. If you deposit $5000,**  **how much interest will you earn in one year?**1. The equation formula is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_
2. When solving an equation problem, **start by writing down the formula**.

**REMEMBER:** * Principal – how much $$ you are depositing at a time.
* Rate - You must divide by 100 or simply **move the decimal TWO to the LEFT.**
* Time – Must be in YEARS. **If in months, divide by 12.**
1. Replace the words part, percent, and whole with the information from the problem.

 P = 5000 I = prt R = 2.5/100 🡪 0.025  T = 1 I = (5000)(.025)(1)1. Multiply the values and make sure that your answer has the correct symbol (usually a $).

 I = (5000)(.025)(1) I = 125 I = $125\*\***ACCOUNT BALANCE:**  **You must add in the principal** **to interest**! |
| 1. John wants to have an interest income of $3,000 a year. How much must he invest for four years at 8%?
 | 1. Jane owes the bank some money at 4% per year. After half a year, she paid $45 as interest. How much money does she owe the bank?
 |
| 1. Calculate the total worth of an investment after six months with a principal of $10,000 at a simple interest rate of 3.5%.
 | 1. What is the final account balance if I put $650 in the bank for 60 months with an interest rate of 6%?
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