

Worksheet 5: Percent Increase/Decrease Problem Set

Name: _____ Date: _____

Directions: Provide a solution to each of the following questions. Show all work for full credit.

1. Math-O's cereal has just redesigned their box. The front of the box includes a statement that the new box contains 30% more cereal. The back of the box includes a statement that the new box contains 130% of contents of the old box. Is it possible that both statements are true or must one of them be false?
2. Ellen's Erasers is revolutionizing the eraser business. They claim that their erasers can erase 150% more than their competitors. What does that mean? If a normal eraser can erase approximately 1,569 characters how many characters can one of Ellen's Erasers erase?
3. Carlos the Curious took out a loan of \$1,000 for one month. He always pays back his loans in \$1 bills. At the end of the month, when it comes time to pay, he lays out one thousand \$1 bills on the table. He arranges them into ten equal piles, with one hundred \$1 bills in each pile and he proclaims, "This is my principal." He then proceeds to add five \$1 bills to each pile, then says "and this is my interest."
 - a. How many dollars did he *add* to each pile?

- c. What would the annual interest rate need to be so that you earn twice your principal in interest?
- d. What would the annual interest rate need to be if you want to earn half of your principal in interest?
- e. Which two questions in 4a-d have the same answer? Explain why.
5. A store has two concurrent sales that you can combine. The price of every item in the store is being decreased by 50% and there is an additional 50% off anything marked as a clearance item. Does that mean clearance items are free? Explain.