Worksheet 4: Percent Decreases

Name: _____ **Date:** _____

When we decrease a number by a percent, we are starting with 100%.

Example 1: Decreasing a quantity by 5% is the same as taking 100% – 5% = 95% of the quantity
Example 2: Decreasing a quantity by 35% is the same as taking 100% – 35% = 65% of the quantity

Decreasing a quantity by *N*% is the same as taking (100 – *N*)% of the quantity

Directions: Answer each of the following questions. Show all work for full credit.

1. If an investment is worth 73% of what it was worth a year ago, by what percent did the investment decrease?

2. Nora finds an investment opportunity boasting that if you invest with them for one year, you will increase your money by 30%. She invested $4,500. Unfortunately, it wasn't true and after investing, Nora *lost* 30% of her money.

a. What is 30% of $4,500?

b. How much money would Nora have if the investment had increased by 30%?

c. How much money will Nora have left after *losing* 30% of her principal?
Another way of saying this: What is $4500 decreased by 30%?

3. a. What is 100% decreased by 12%?

b. What is 50 decreased by 12%

c. What is 88% of 50?

4. a. What is 100% decreased by 74%?

b. What is 50 decreased by 74%

c. What is 26% of 50?

5. Juan invests $2,333. Unfortunately, his investment decreases by 15%.

a. How much money did Juan lose?

b. What percent of his principal does he still have after losing 15%?

6. Chantel had $20,000 in 2017 and at the start of 2018 she only had $17,400. By what percent did her money decrease?

7. Jack and Jill went shopping together. They both LOVED the same "Personal Finance is Fun!" t-shirt. The shirt costs $20. Fortunately, there was a sale that day and the salesperson was able to give Jill 15% off the price of the t-shirt (he decreased the price of her shirt by 15%). A week later Jack went back to buy the same shirt for himself, not only was the shirt no longer on sale, but the original price had been increased by 15%.

a. How much did Jill pay for her shirt?

b. How much did Jack pay for his shirt?

c. How are the two above questions related? Write a note explaining your thinking to Jack, who can answer part A but cannot answer part B. Jack thinks these two problems are entirely different problems. In your note explain how the two problems are very similar.