

Name: _____
Date: _____
Class: _____

Algebra
Unit 6
HW 6-5

1) When studying a population of bugs, it is discovered that they increase at a rate of 6% per month. If the population is 350 now, what will the population be in 3 weeks?

2) Evaluate: **Increasing 120 by 3.5%**

3) A cup of hot tea is decreasing in temperature at a constant rate of 6%. The cup is currently 200 degrees. To the nearest minute, how long will it take for the cup to be 150 degrees?

4) Evaluate: **Decrease \$22.50 by 8%**

5) The price of a barrel of oil has been decreasing at a rate of 3.5% per week. If it currently costs \$108 per barrel, what will the cost be at the end of 2 weeks?

6) A savings account grows by 3% per year. Sofia places \$500 in the account at the beginning of the year. Find the balance at the end of 1 year and at the end of 2 years. What was the average rate of change from $t = 0$ to $t = 1$ and what was the average rate of change from $t = 1$ to $t = 2$?

7) Increase the number 20 by 5% and then the result by 5% again. What is the total percent increase from the original 20 to the ending number?

8) Sketch a graph of $f(x) = 8(2)^x$ on the interval $-3 \leq x \leq 2$