Algebra 1: 5.2 (Part 1) Homework Name _____ Period ____

Write a function that represents each population as a function of time using $P(t) = P(1+r)^t$ or $P(t) = P(1-r)^t$.

1. Blueville has a population of 7000. Its population is increasing at a rate of 1.4%.

2. Youngstown has a population of 12,000. Its population is increasing at a rate of 1.2%.

3. Greenville has a population of 8000. Its population is decreasing at a rate of 1.75%.

4. North Park has a population of 14,000. Its population is decreasing at a rate of 3.1%.

Waynesburg has a population of 16,000. Its population is ***increasing*** at a rate of 1.5%. Write a function to represent the population as a function of time. Determine the population after a given number of years. Round your answer to the nearest whole number.

Function: $P(t) = P(1+r)^t$

5. 3 years
6. 5 years
7. 50 years

Morristown has a population of 18,000. Its population is ***decreasing*** at a rate of 1.2%. Write a function to represent the population as a function of time. Determine the population after a given number of years. Round your answer to the nearest whole number.

Function: $P(t) = P(1-r)^t$

8. 5 years
9. 10 years
10. 25 years