

9-2 Homework

NC Math 1

Name _____

- The population of Henderson City was 3,381,000 in 1994, and is growing at an annual rate of 1.8%. If this growth rate continues, what will the approximate population of Henderson City be in the year 2000?
 - 3,696,000
 - 3,763,000
 - 3,798,000
 - 3,831,000

- The function $f(x) = 12,500(0.89)^x$ models the value of a car x years after its purchase. Which statement is true about the value of the car?
 - The value of the car is decreasing at a rate of 11% per year.
 - The value of the car is decreasing at a rate of 89% per year.
 - The value of the car is increasing at a rate of 11% per year.
 - The value of the car is increasing at a rate of 89% per year.

- The function $p(x) = 104(1.09)^x$ models the population of blue birds in an area x years after 1980. At what rate is the population of blue birds increasing each year?
 - 4%
 - 9%
 - 91%
 - 96%

- Which statement best describes the equation $y = A(0.55)^x$, where A represents the initial value and x represents time in years?
 - y represents a function with an exponential decay of 45%.
 - y represents a function with an exponential decay of 55%.
 - y represents a function with an exponential growth of 45%.
 - y represents a function with an exponential growth of 55%.

- Which function represents an initial population that increases 22% per year where A represents the initial value and x represents time in years?
 - $y = A(0.22)^x$
 - $y = A(0.68)^x$
 - $y = A(1.22)^x$
 - $y = A(1.68)^x$

6. The value of a car purchased for \$20,000 decreases at a rate of 12% per year. What will be the value of the car after 3 years?
- \$12,800.00
 - \$13,629.44
 - \$17,600.00
 - \$28,098.56
7. The number of bacteria in a Petri dish increases by 18% every hour. If there were initially 200 bacteria placed in the Petri dish, which function can be used to determine the number of bacteria in the Petri dish in exactly x hours?
- $y = 200(0.18)^x$
 - $y = 200(0.82)^x$
 - $y = 200(1.18)^x$
 - $y = 200(1.82)^x$
8. What is the y -intercept of the graph of the function $f(x) = 2 \cdot 3^{(x-2)}$?
- $\frac{2}{9}$
 - $\frac{2}{3}$
 - 2
 - 18
9. Genevieve deposited \$400 into her bank account. The equation $A(t) = 400(1.07)^t$ can be used to calculate the value of her money after t years. What is the annual interest rate she is earning on her deposit?
- 0.07%
 - 1.07%
 - 7%
 - 107%
10. In 2008, the enrollment at Greenwood Elementary School was 865 students. The equation $N = 865(0.92)^t$ can be used to determine the number, N , of students enrolled t years after 2008. Which statement about the change in enrollment is **true**?
- The enrollment at Greenwood Elementary School is decaying at the rate of 0.92% each year.
 - The enrollment at Greenwood Elementary School is growing at the rate of 0.92% each year.
 - The enrollment at Greenwood Elementary School is decaying at the rate of 8% each year.
 - The enrollment at Greenwood Elementary School is growing at the rate of 8% each year.