Exponential Functions HW

Find the multiplier for each rate of exponential growth and decay.

1. 7% growth
2. 6.5% growth
3. 0.05% decay

Given x = 5, y = $\frac{3}{5}$, and z = 3.3, evaluate each expression.

4. 3^y
5. $25(2)^x$
6. $100(2)^{4z}$

Predict the population of bacteria for each situation and time period.

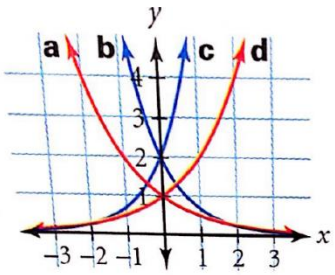
7. 125 bacteria that double every hour
   a. after 6 hours
   b. after 8 hours
8. 775 bacteria that triple every hour
   a. after 2 hours
   b. after 4 hours

Tell whether each function represents exponential growth or decay.

9. $k(x) = 500(1.5)^x$
10. $d(x) = 0.125\left(\frac{1}{2}\right)^x$
11. $s(k) = 0.5(0.5)^k$
12. $f(x) = 722^x$

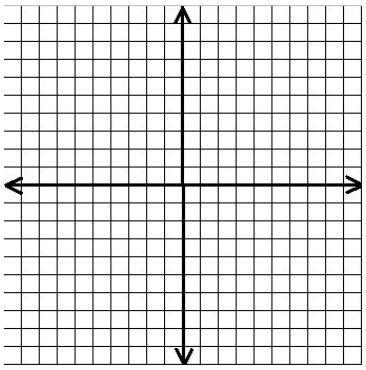
Match each function with its graph.

13. $y = 2^x$
14. $y = 2\left(\frac{1}{3}\right)^x$



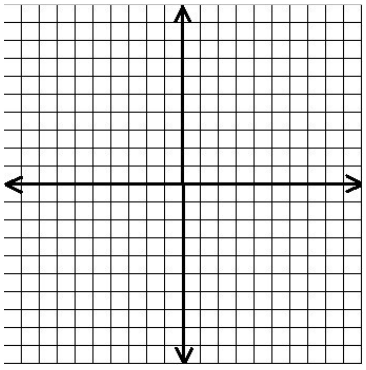
Graph each function and describe characteristics.

10. $g(x) = 0.5\left(\frac{1}{2}\right)^{x+2}$



Transformations: _____
Domain:_____ Range:_____
Asymptote: _____
Increasing or Decreasing?
X-intercept: _____ Y-intercept: _____
End Behavior: As x → _____, f(x) → _____
As x → _____, f(x) → _____

11. $g(x) = -(2)^{x+2} - 3$



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