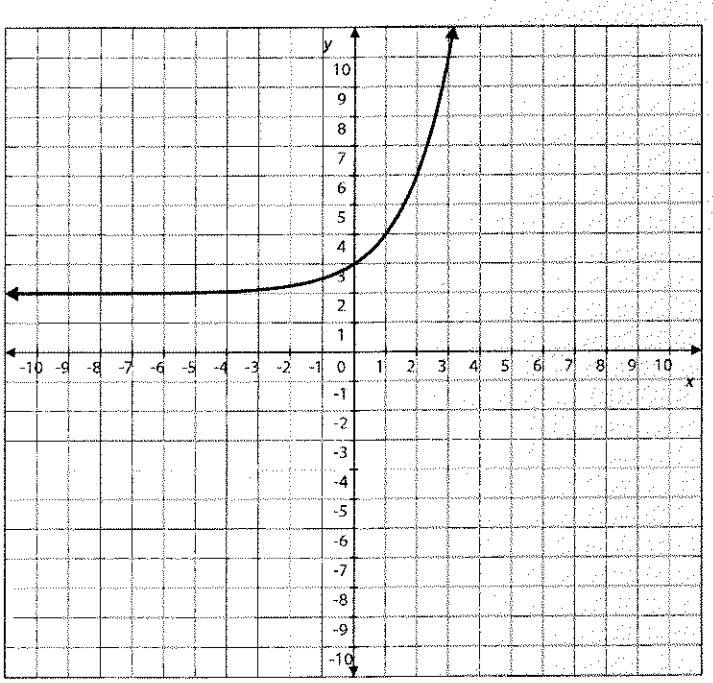
1. Given the graph of $f(x)$ below, what is $f(2)$?



a. $f(2) = 2$

b. $f(2) = 0$

c. $f(2) = 6$

d. $f(2) = 10$

2. Identify the parameters in the function $f(x)=2^x+3$.

a. The growth factor is 2 and the vertical shift is 3.

b. x and $f(x)$

c. The growth factor is 3 and the vertical shift is 2.

d. 0 and 4

3. Identify the parameters in the function $f(x)=4(3^x)$.

a. The parameters are not defined.

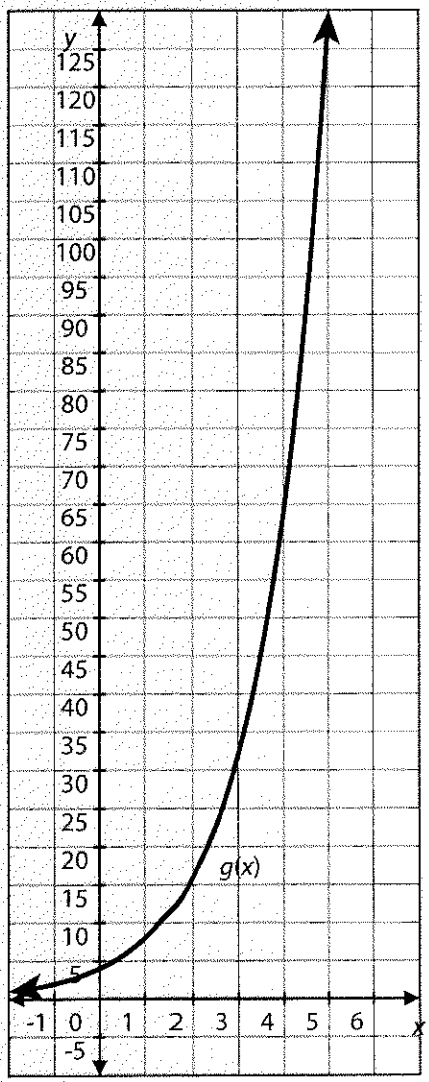
b. x and $f(x)$

c. The growth factor is 3 and the coefficient is 4.

d. The growth factor is 4 and the coefficient is 3.

4. Which of the following statements is true about the functions $f(x)$ and $g(x)$?

x	$f(x)$
−1	1.5
0	3
1	6
2	12



a. The y-intercept of the function $f(x)$ is less than the y-intercept of the function $g(x)$.

b. The y-intercept of the function $f(x)$ is greater than the y-intercept of the function $g(x)$.

c. The y-intercept of the function $f(x)$ is equal to the y-intercept of the function $g(x)$.

d. The y-intercepts cannot be determined.

5. Describe the end behavior of $y = 2^x$.

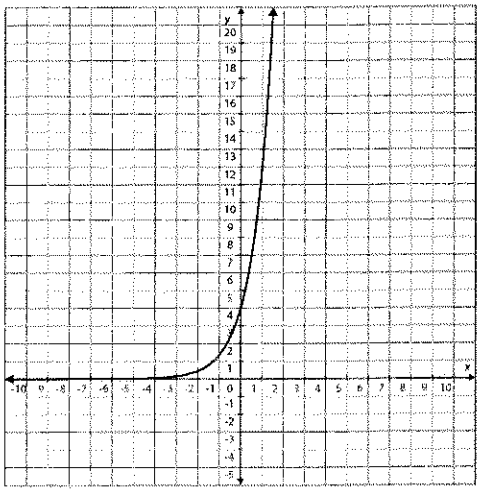
a. growth, with a horizontal asymptote of $y = 1$

b. decay, with a horizontal asymptote of $y = 0$

c. decay, with a horizontal asymptote of $y = 1$

d. growth, with a horizontal asymptote of $y = 0$

6. What is the *y*-intercept of the graph below?



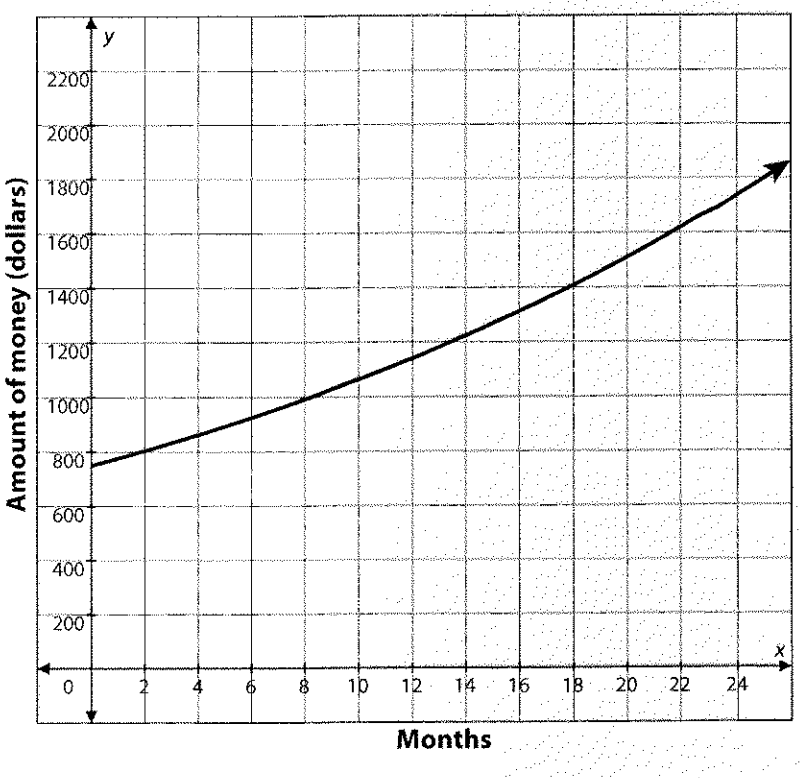
a. (0, 4)

b. (0, –4)

c. (4, 0)

d. (–4, 0)

7. The graph below can be described as:



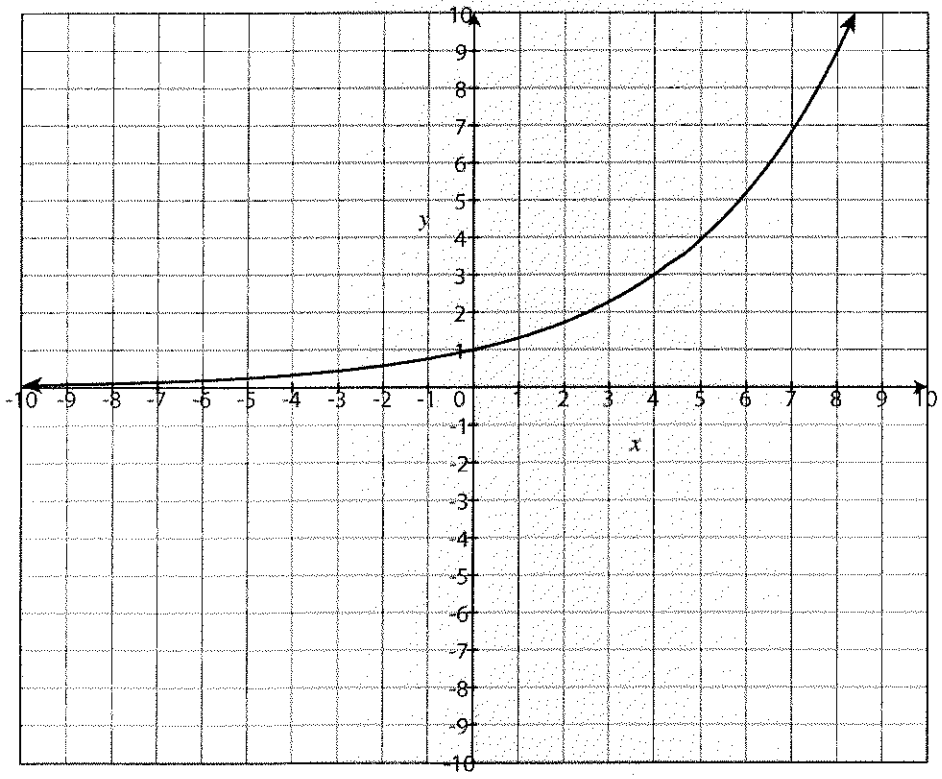
a. a positive function that is increasing

b. a positive function that is decreasing

c. a negative function that is increasing

d. a negative function that is decreasing

8. Given the graph below, what is $f(4)$?



a. $f(4) = 3$

b. $f(4) = 5$

c. $f(4) = 2.25$

d. $f(4) = 8$

9. DeAndre modeled the growth of his ant population using the function $a(x) = 2(4)^{\frac{x}{3}}$, where x is in days. He started with 2 ants, and the population quadruples every 3 days. He evaluated the function at $f(12)$ and calculated $f(12) = 512$. What does his calculation say about the ant population?

a. After 4 days, DeAndre will have 512 ants.

b. After 12 days, DeAndre will have 512 ants.

c. After 512 days, DeAndre will have 12 ants.

d. After 512 days, DeAndre will have about 171 ants.

10. Evaluate $f(x) = 5(3^x) + 1$ for $x = 3$.

a. 46

b. 136

c. 31

d. 109