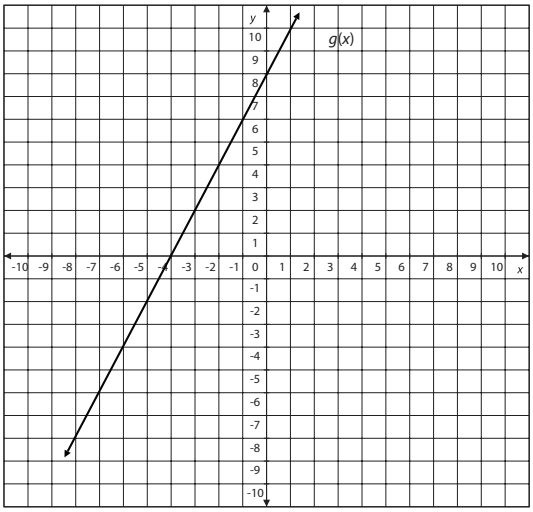
Comparing Functions

Pre-Assessment

Circle the letter of the best answer.

1. Which of the following statements is true about the functions $f(x)$ and $g(x)$, shown in the table and graph?

x	$f(x)$
–2	1
0	7
2	13
4	19



   a. The function $f(x)$ has a greater y-intercept than the function $g(x)$.

   b. The function $g(x)$ has a greater rate of change than the function $f(x)$.

   c. The function $g(x)$ has a greater y-intercept than the function $f(x)$.

   d. The rates of change for both $f(x)$ and $g(x)$ are equal.

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

$$f(x)=\frac{2}{3}x-6$$

x	$g(x)$
–4	10
0	7
4	4
8	1

   a. The rate of change of $f(x)$ is less than the rate of change of $g(x)$.

   b. The rate of change of $f(x)$ is greater than the rate of change of $g(x)$.

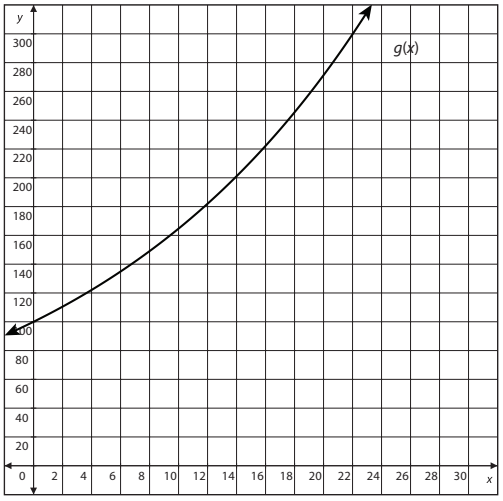
   c. The y-intercept of $f(x)$ is equal to the rate of change of $g(x)$.

   d. The y-intercept of $f(x)$ is greater than the rate of change of $g(x)$.

continued

3. Which of the following statements is true about the functions $f(x)$ and $g(x)$ over the interval $0 \le x \le 12$?

$$f(x) = 200\left(1 + \frac{0.05}{12}\right)^{12x}$$



a. The rates of change for the functions $f(x)$ and $g(x)$ are equal over the interval $0 \le x \le 12$.

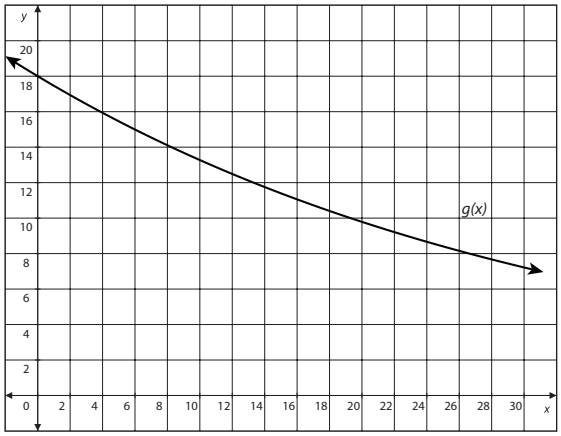
b. The rate of change for the function $f(x)$ is greater than the rate of change for the function $g(x)$ over the interval $0 \le x \le 12$.

c. The rate of change for the function $f(x)$ is less than the rate of change for the function $g(x)$.

d. The rate of change for the functions cannot be determined.

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

x	$f(x)$
–1	18.95
0	18
1	17.1
2	16.25



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

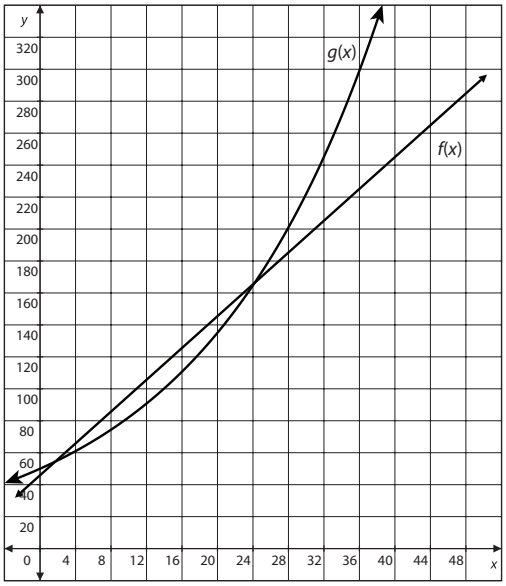
b. The y-intercept of the function $f(x)$ is less than the y-intercept for the function $g(x)$.

c. The y-intercepts of the functions $f(x)$ and $g(x)$ are equal.

d. The y-intercepts of the functions cannot be determined.

continued

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



a. The rate of change of the function $f(x)$ is always greater than the rate of change of the function $g(x)$.

b. The rate of change of the function $g(x)$ will eventually be greater than the rate of change of the function $f(x)$.

c. The rate of change of the function $f(x)$ is never greater than the rate of change of the function $g(x)$.

d. The rate of change of an exponential function cannot be determined.