Chapter 3 Practice Test

1

x	–4	0	6
$f(x)$	–4	–1	k

In the table above, if $f(x)$ is a linear function, what is the value of k?

A) 2.5

B) 3

C) 3.5

D) 4

2

The graph of a line in the xy- plane has slope $\frac{1}{3}$ and contains the point $(9,1)$. The graph of a second line passes through the points $(-2,4)$ and $(5,-3)$. If the two lines intersect at (a,b), what is the value of $a+b$?

A) –2

B) 2

C) 4

D) 6

3

Which of the following expressions is equal to 0 for some value of x?

A) $5+|x+5|$

B) $5+|x-5|$

C) $-5+|x+5|$

D) $-5-|x-5|$

4

Line ℓ in the xy- plane contains points from each of the Quadrants I, III, and IV, but no points from Quadrant II. Which of the following must be true?

A) The slope of line ℓ is zero.

B) The slope of line ℓ is undefined.

C) The slope of line ℓ is positive.

D) The slope of line ℓ is negative.

5

x	–3	–1	1	5
$f(x)$	9	5	1	–7

The table above shows some values of the linear function f. Which of the following defines f?

A) $f(x)=2x-3$

B) $f(x)=-2x+3$

C) $f(x)=2x-1$

D) $f(x)=-2x+1$

6

If $f(x)=-6x+1$, what is $f(\frac{1}{2}x-1)$ equal to?

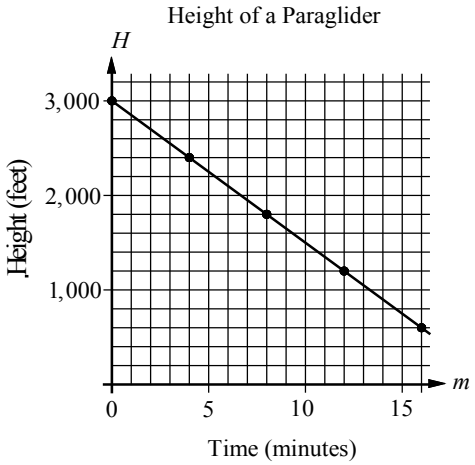
A) $-3x+7$

B) $-3x-5$

C) $-3x+1$

D) $-3x-1$

Questions 7 and 8 refer to the following information.



The graph above shows the relationship between the height of paraglider H, in feet, and time m, in minutes.

7

Which of the following represents the relationship between H and m?

A) $H = -100m + 3000$

B) $H = -150m + 3000$

C) $H = -175m + 3000$

D) $H = -225m + 3000$

8

If the height of the paraglider is 1,350 feet, which of the following best approximates the time the paraglider has been flying?

A) 10 minutes

B) 10 minutes and 30 seconds

C) 11 minutes

D) 11 minutes and 30 seconds

9

A line in the xy- plane passes through the point $(1,-2)$ and has a slope of $\frac{1}{3}$. Which of the following points lies on the line?

A) $(3,-2)$

B) $(2,-\frac{4}{3})$

C) $(0,-2)$

D) $(-1,-\frac{8}{3})$

10

$$f(x) = ax + 2$$

In the function above, a is a constant. If $f(-1) = 4$, what is the value of $f(-\frac{1}{2})$?

11

If the slope of the line in the xy- plane that passes through the points $(2,-4)$ and $(6,k)$ is $\frac{3}{2}$, what is the value of k?

12

$$\frac{1}{3}x - \frac{3}{4}y = -11$$
$$\frac{1}{2}x + \frac{1}{6}y = -1$$

If (x,y) is the solution to the system of equations above, what is the value of $x + y$?