

Linear functions

1) Let f be a linear function such that $f(-3) = \frac{1}{2}$ and $f(1) = \frac{5}{2}$, then $f(7) =$

- A) $\frac{11}{2}$
- B) 5
- C) $\frac{13}{2}$
- D) $\frac{7}{3}$
- E) 6

2) Let $y = f(x)$ be a linear function with $f(1) = 5$ and $f(k) = 15$. If the graph of f is parallel to the line $2x + y = 3$, then $k =$

- A) -4
- B) 2
- C) 3
- D) -2
- E) 4

3) Which one of the following statements is FALSE for the function $f(x) = -5$?

- (a) The range of f is $(-\infty, -5]$
- (b) The graph of f passes through $(-5, -5)$
- (c) The domain of f is $(-\infty, \infty)$
- (d) The graph of f has y -intercept -5
- (e) The graph of f is a line with slope zero

4) If $f(x)$ is a linear function with $f(2)=1$, $f(-1)=2$, then the x -intercept of the graph of $f(x)$ is

- (a) 5
- (b) -3
- (c) -8
- (d) -5
- (e) 0

5) If (a,b) is the intersection point of the graphs of $f_1(x)=-3x-7$ and $f_2(x)=2x+13$, then $a+b=$

- (a) 1
- (b) -2
- (c) 4
- (d) -3
- (e) 3

6) If a walkway rises 1.7 ft for every 3.4 ft on the horizontal, then the slope of the walkway is

- (a) $1/2$
- (b) 2
- (c) $-1/2$
- (d) -2
- (e) 0

7) If $f(x)$ is a linear function with $f(2)=2$ and $f(3)=0$ then $f(4)$ is equal to:

- (a) -2
- (b) 2
- (c) $-1/2$
- (d) $1/2$

8) If $f(x)$ is a linear function such that $f(-3) = -4$ and $f(2) = 11$

then $f(5) =$

A) 20

9) Which of the following statements is FALSE for the function $f(x) = -5$?

A) The graph of f passes through $(-5, -5)$.

B) The domain of f is $(-\infty, \infty)$.

C) The range of f is $(-\infty, -5]$.

D) The graph of f has y-intercept -5 .

E) The graph of f is a line with slope zero.

10) Which one of the following statements is TRUE?

A) the slope of the line rises from left to right is positive.

B) the slope of the line $x = 5$ is 0

C) the slope of the line $y = 5$ is 5

D) the range of the line $y = 5$ is $[0, \infty)$

E) the domain of the relation $x = 5$ is $(-\infty, \infty)$

11) If $y = f(x)$ is a linear function such that $f(-1) = 3$ and $f(3) = 4$,

then $f(-5) =$

A) 2

B) -2

C) $\frac{9}{2}$

D) $-\frac{9}{2}$

E) 4

12) Let f be a linear function such that $f(2) = c$. If the graph of f is parallel to the line $cx - 2x + y = 3$, then $f(3) =$

A) 2

B) -3

C) -2

D) 3

E) 5