

Find the slope of the line through the pair of points.

1) (-4, 7) and (-5, -6)

A) $\frac{1}{13}$

B) $-\frac{1}{13}$

C) 13

D) - 13

Decide whether the pair of lines is parallel, perpendicular, or neither.

2) $8x + 6y = 18$ and $4y = 3x - 14$

A) Parallel

B) Perpendicular

C) Neither

Find an equation of the line, and write it in slope-intercept form.

3) Through (-7, 8); $m = -5$

A) (a) $y = -5x - 27$

B) (a) $y = -5x + 34$

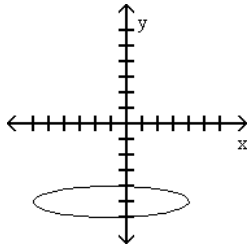
C) (a) $y = 5x - 25$

D) (a) $y = -5x - 27$

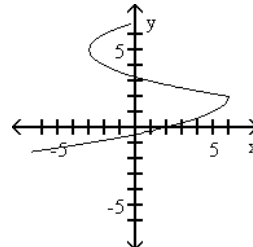
Provide an appropriate response.

4) Which one of the following is the graph of a function?

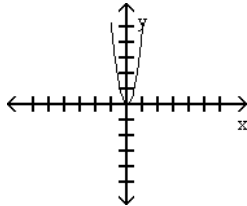
A)



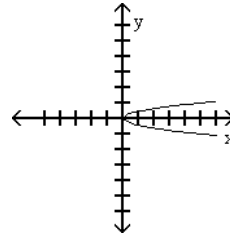
B)



C)



D)



Find an equation of the line, and write it in slope-intercept form.

5) Through (5, 9) and (-8, -6)

A) (a) $y = -2x + 10$

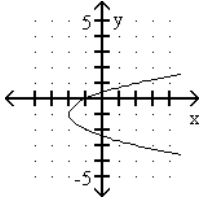
B) (a) $y = \frac{15}{13}x + \frac{42}{13}$

C) (a) $y = -\frac{15}{13}x + \frac{42}{13}$

D) (a) $y = 2x + 10$

Give the domain and range of the relation shown in the following.

6)



A) Domain: $(-\infty, \infty)$; range: $(-\infty, -2]$

B) Domain: $(-\infty, -2]$; range: $(-\infty, \infty)$

C) Domain: $[-2, \infty)$; range: $(-\infty, \infty)$

D) Domain: $(-2, \infty)$; range: $(-\infty, \infty)$

Solve the problem.

7) Find $f(1)$ when $f(x) = -x^2 + 4x + 2$.

A) 3

B) 7

C) 5

D) -1

8) Find $f(a)$ when $f(x) = -x^2 + 4x + 7$.

A) $-4a$

B) $a^2 + 4a + 7$

C) $-a^2 + 4a + 7$

D) $-a^2 + 4a$

For the given pair of functions, find the requested function.

9) $f(x) = 3x - 2$, $g(x) = -9x^2 - 12x + 9$; $(f + g)(x)$

A) $-10x^2 - 9x - 7$

B) $-9x^2 + 9x + 7$

C) $9x^2 - 6x - 11$

D) $-9x^2 - 9x + 7$

10) $f(x) = 10x^2 + 12x + 11$, $g(x) = 13x^2 + 20x - 8$; $(f - g)(x)$

A) $-3x^4 - 8x^2 + 19$

B) $-3x^2 - 8x + 19$

C) $-3x^2 - 8x + 3$

D) $-3x^2 + 8x - 19$

11) Let $f(x) = x^2 - 9$ and $g(x) = 2x + 7$; $(f - g)(2)$.

A) -11

B) -15

C) -16

D) -18

12) Let $f(x) = x^2 + 2$ and $g(x) = 4x + 5$; $(g \circ f)(6)$.

A) 147

B) 157

C) 843

D) 43

13) Let $f(x) = 3x^2 - 2x + 7$ and $g(x) = x - 1$; $(f \circ g)(x)$.

A) $3x^2 + 19x + 8$

B) $3x^2 - 8x + 8$

C) $-8x^2 + 3x + 12$

D) $3x^2 - 8x + 12$

14) $f(x) = x^2 - x - 5$, $g(x) = x - 1$; $(fg)(x)$.

A) $x^3 - 2x^2 - 4x + 5$

B) $x^3 - 2x^2 - 6x - 5$

C) $x^3 - 4x + 5$

D) $x^3 - 2x^2 - 5x + 5$

15) $f(x) = x^2 + 10x + 21$, $g(x) = x + 7$; $\left(\frac{f}{g}\right)(x)$.

A) $x - 14$

B) $x^2 + 3$

C) $x + 3$

D) $x^3 - 14$

Decide whether or not the ordered pair is a solution of the system.

16) $\left(\frac{9}{2}, \frac{21}{2}\right)$

$y - 3x = -3$

$x + y = 15$

A) Yes

B) No

Solve the system by substitution or elimination. If a system is inconsistent or has dependent equations, say so.

17) $x + 6y = -40$

$8x + 5y = -19$

A) $\{(-2, -6)\}$

B) $\{(1, -6)\}$

C) $\{(2, -7)\}$

D) \emptyset ; inconsistent system

18) $x - 5y = 4$

$x = 7 + 5y$

A) $\{(4, 5)\}$

B) $\{(4, 0)\}$

C) $\{(x, y) \mid x - 5y = 4\}$; dependent equations

D) \emptyset ; inconsistent system