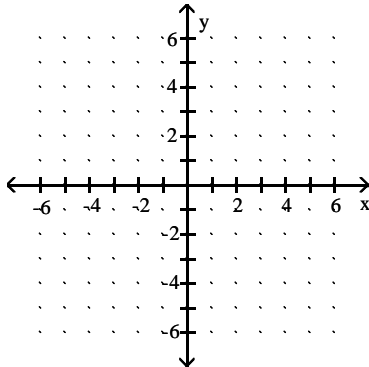


Houston Community College
College Algebra
Review for Exam 2

Name _____

Graph

1) $y = -6$



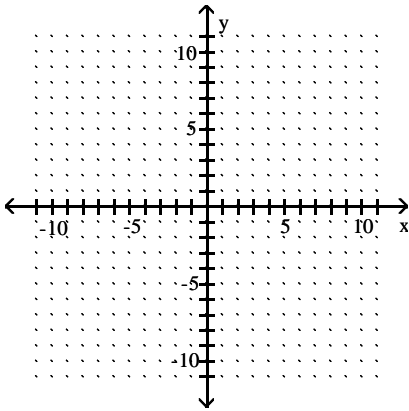
Find the slope of the line satisfying the given conditions.

2) $(-8, -2)$ and $(-9, -5)$

- A) -3 B) $\frac{1}{3}$ C) 3 D) $-\frac{1}{3}$

Graph the line described.

3) Through $(0, 2)$; $m = \frac{1}{3}$



Find the slope and the y-intercept of the line.

4) $8x + 5y = 34$

- A) Slope $\frac{5}{8}$; y-intercept $\left(0, \frac{5}{34}\right)$ B) Slope $-\frac{8}{5}$; y-intercept $\left(0, \frac{34}{5}\right)$
C) Slope $-\frac{5}{8}$; y-intercept $\left(0, \frac{5}{34}\right)$ D) Slope $\frac{8}{5}$; y-intercept $\left(0, \frac{34}{5}\right)$

Find an equation of the line satisfying the conditions. Write the equation in slope -intercept form.

5) Through $(-3, 8)$; perpendicular to $-3x + 4y = -23$

A) $y = -\frac{4}{3}x + 4$

B) $y = \frac{3}{4}x + \frac{41}{4}$

C) $y = -\frac{3}{4}x + \frac{23}{4}$

D) $y = \frac{4}{3}x + 12$

Find the requested value.

6)

$$f(9) \text{ for } f(x) = \begin{cases} 2x + 1, & \text{if } x < 1 \\ 9x, & \text{if } 9 \leq x \leq 14 \\ 9 - 3x, & \text{if } x > 14 \end{cases}$$

A) 81

B) 3

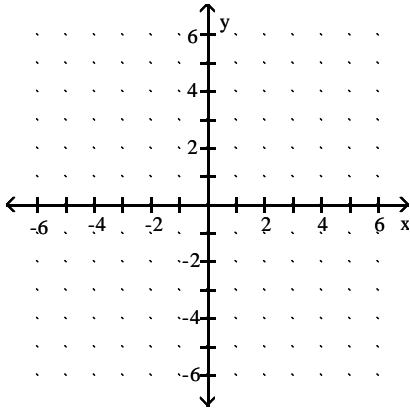
C) 43

D) -18

Graph the function.

7)

$$f(x) = \begin{cases} x + 1, & \text{if } x > 0 \\ -5, & \text{if } x \leq 0 \end{cases}$$



Compare the graph of the given quadratic function f with the graph of $y = x^2$.

8) $f(x) = (x - 8)^2 + 4$

A) a translation 4 units right and 8 units up

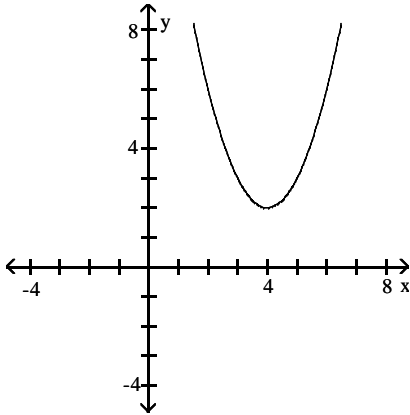
B) a translation 8 units right and 4 units up

C) a translation 8 units left and 4 units up

D) a translation 8 units left and 4 units down

Solve the problem.

9) Select the equation that describes the graph shown.



A) $y = (x + 4)^2 + 2$

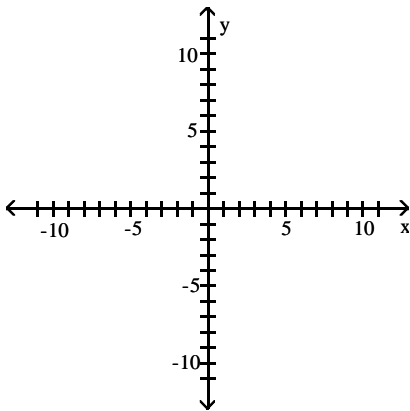
B) $y = (x + 2)^2 - 4$

C) $y = (x - 4)^2 + 2$

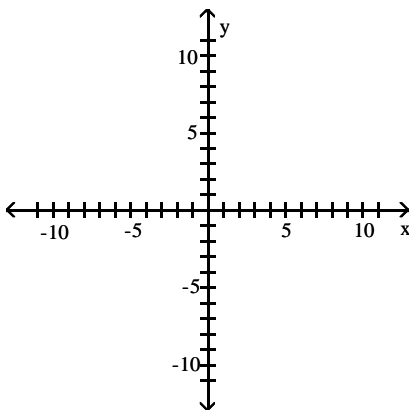
D) $y = x^2 - 4$

Graph the function.

10) $y = |x - 3|$



11) $y = -(x - 3)^2 - 2$



17) $f(x) = 9x^2 - 7x$, $g(x) = x^2 - 3x - 28$

Find $\left(\frac{f}{g}\right)(x)$.

A) $\frac{9x - 7}{-3}$

B) $\frac{9 - x}{28}$

C) $\frac{9x^2 - 7x}{x^2 - 3x - 28}$

D) $\frac{9x}{x + 1}$

Solve the problem.

18) Find $(g \circ f)(7)$ when $f(x) = -7x - 3$ and $g(x) = 4x^2 - 9x - 8$.

A) 252

B) 298

C) -878

D) 11,276

Perform the requested operation or operations.

19) $f(x) = 5x + 15$, $g(x) = 3x - 1$

Find $(f \circ g)(x)$.

A) $15x + 20$

B) $15x + 14$

C) $15x + 44$

D) $15x + 10$

20) $f(x) = 4x^2 + 5x + 7$, $g(x) = 5x - 3$

Find $(g \circ f)(x)$.

A) $20x^2 + 25x + 32$

B) $4x^2 + 5x + 4$

C) $4x^2 + 25x + 32$

D) $20x^2 + 25x + 38$

Identify the vertex of the parabola.

21) $y = 2x^2 - 8x + 5$

A) (-2, 3)

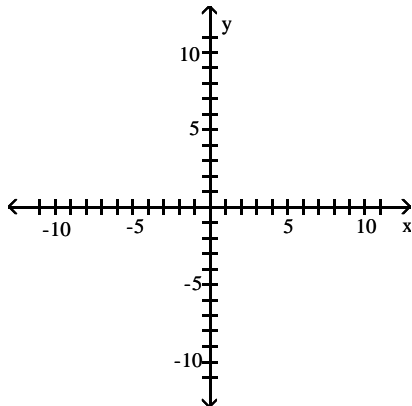
B) (2, -3)

C) (-3, 2)

D) (3, -2)

Graph.

22) $y = 2x^2 - 2x - 1$



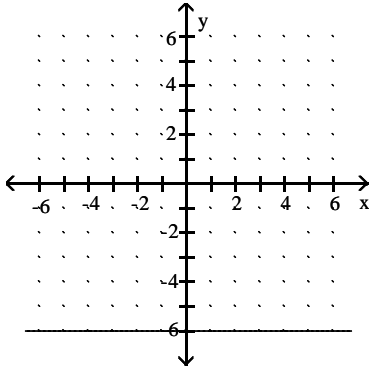
Compute and simplify the difference quotient $\frac{f(x+h) - f(x)}{h}$, $h \neq 0$.

23) $f(x) = 10x - 13$

Answer Key

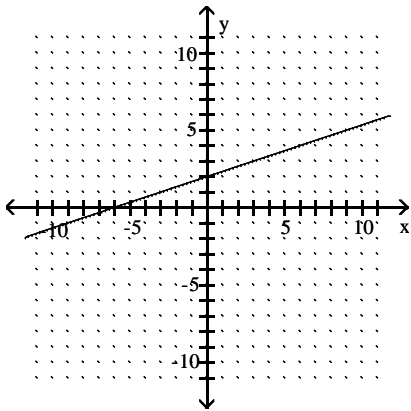
Testname: M1314 REVIEW FOR EXAM 2

1) $D = \{-\infty, \infty\}$, $R = \{-6\}$



2) C

3)

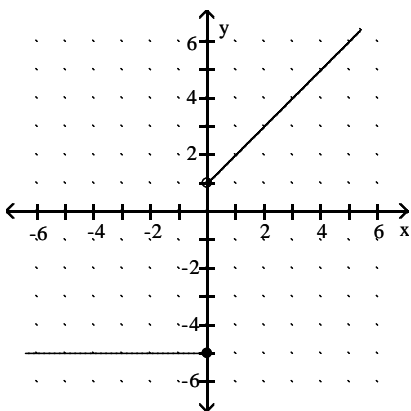


4) B

5) A

6) A

7)



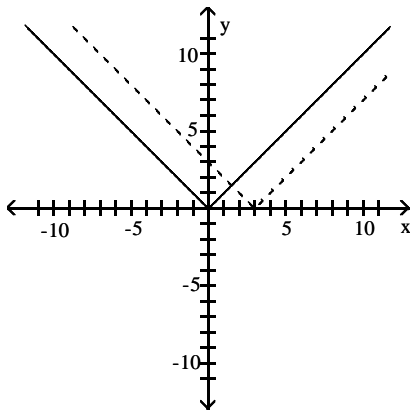
8) B

9) C

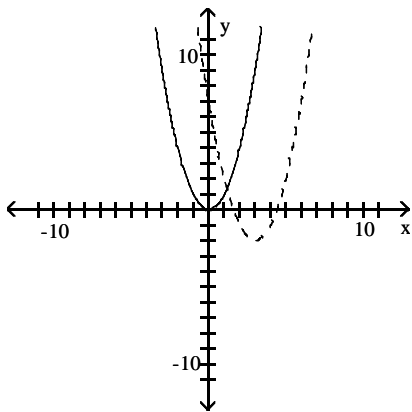
Answer Key

Testname: M1314 REVIEW FOR EXAM 2

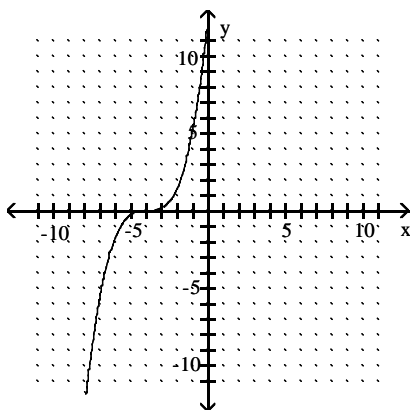
10)



11)



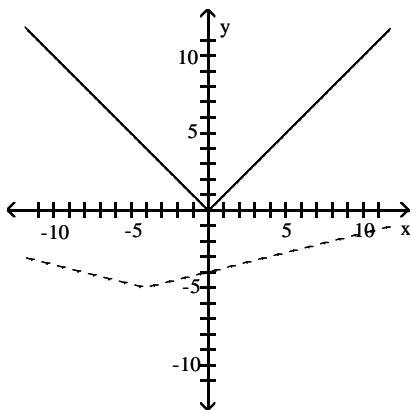
12)



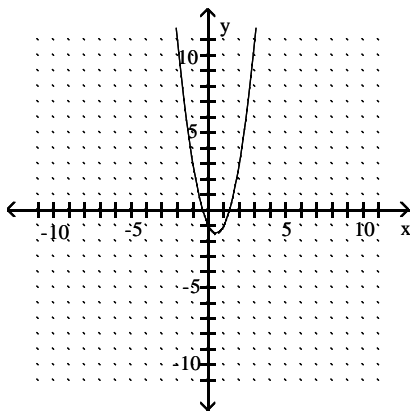
Answer Key

Testname: M1314 REVIEW FOR EXAM 2

13)



- 14) B
- 15) C
- 16) D
- 17) C
- 18) D
- 19) D
- 20) A
- 21) B
- 22)



23) 10