1. Rewrite $|\sqrt{5}-2|-2$ without using absolute value notation.

   a) $\sqrt{5}-4$

   b) $\sqrt{5}$

   c) $-\sqrt{5}+2$

   d) $\sqrt{5}-2$

   e) $-2-\sqrt{5}$

2. Solve $\dfrac{x-1}{2}+\dfrac{2x+3}{-1}=0$.

   a) $x=\dfrac{7}{5}$

   b) $x=\dfrac{5}{3}$

   c) $x=\dfrac{3}{5}$

   d) $x=-\dfrac{7}{3}$

   e) $x=-\dfrac{8}{3}$

3. Find one of the factors for $x^2-4x-5=0$.

   a) $x+4$

   b) $x-1$

   c) $x-5$

   d) $x+6$

   e) $x-3$

4. Compute the slope of the line passing through the points $(-3,2)$ and $(2,-3)$.

   a) -1

   b) -2

   c) -3

   d) 0

   e) 5

5. Find the equation of the line that passes through $(7,6)$ and has the same $x-$intercept as the line $y=6x+1$.

   a) $y=\dfrac{6}{43}x+\dfrac{43}{36}$

   b) $y=\dfrac{36}{43}x+\dfrac{6}{43}$

   c) $y=6x+1$

   d) $y=\dfrac{36}{43}x-\dfrac{43}{6}$

   e) $y=7x-6$

6. Find the radius of the circle $x^2+y^2+8x-4y=-16$.

   a) 4

   b) 2

   c) 16

   d) 8

   e) 0

7. Solve $3y^2-3y-4=0$.

   a) $y=\dfrac{1}{2}\pm\sqrt{57}$

   b) $y=\dfrac{3\pm\sqrt{57}}{6}$

   c) $y=\dfrac{3\pm\sqrt{55}}{3}$

   d) $y=\dfrac{3\pm\sqrt{55}}{8}$

   e) $y=\dfrac{-3\pm\sqrt{57}}{8}$

8. Find the value of k such that the equation $2x^2+(\sqrt{7k})x+14=0$ has one real root.

   a) $k=12$

   b) $k=0$

   c) $k=16$

   d) $k=2$

   e) $k=7$

9. Find all real solutions of $t^{\frac{2}{3}} = 4$.

a) $t = \pm 2$

b) $t = \pm 8$

c) $t = \pm 16$

d) $t = 4$

e) $t = \sqrt{2}$

10. Solve $\frac{3x}{5} - \frac{x-1}{3} < 1$.

a) $\left[\frac{5}{2}, \infty\right)$

b) $\left(-\infty, \frac{5}{2}\right]$

c) $\left(-\infty, \frac{3}{5}\right]$

d) $\left(-\infty, \frac{5}{2}\right)$

e) $\left(\frac{5}{2}, \infty\right)$

11. Solve $|3x + 2| > 8$.

a) $[-2, 2)$

b) $(-2, 2)$

c) $\left(-\infty, -\frac{10}{3}\right] \cup [2, \infty)$

d) $(2, \infty)$

e) $\left(-\infty, -\frac{10}{3}\right) \cup (2, \infty)$

12. Solve the inequality $x^2 + 2x - 8 < 0$.

a) $(-\infty, -4) \cup (2, \infty)$

b) $[-4, 2]$

c) $(-4, 2)$

d) $(-2, 8)$

e) no solution

13. Find the domain of $h(x) = \sqrt{x^2 - 36}$.

a) $(-\infty, -6) \cup (6, \infty)$

b) $(-\infty, -36] \cup [36, \infty)$

c) $(6, \infty)$

d) $(-6, 6)$

e) $(-\infty, -6] \cup [6, \infty)$

14. If $T(x) = 2x^2 - 2x$, find $T(x + h) - T(x - h)$.

a) $4x + 3h$

b) $8hx + 2h$

c) $8h - 2x$

d) $4x - 2h$

e) $8hx - 4h$

15. Specify the domain and range of the given function. (The axes are marked in one-unit intervals.)

a) domain: $[-2, 4]$; range: $[-3, 3)$

b) domain: $[-2, 0) \cup (0, 4]$; range: $[-3, 3]$

c) domain: $[-3, 3)$; range: $[-2, 4]$

d) domain: $[-2, 4]$; range: $[-3, -2]$

e) domain: $[-2, 0) \cup (0, 4]$; range: $[-3, 3)$

16. If $f(x) = 2x^2$, find $\frac{f(x) - f(7)}{x - 7}$.

a) $2x - 7$

b) $2x + 14$

c) $x^2 + 7$

d) $x + 14$

e) $x^2 - 14$

17. State how the graph of the function $g(x) = -5x + 2$ can be obtained from the graph of $f(x) = 5x - 2$.

a) The graph of $f(x)$ is reflected about the x-axis and then about the y-axis.

b) The graph of $f(x)$ is reflected about the y-axis.

c) The graph of $f(x)$ is translated 5 units up.

d) The graph of $f(x)$ is translated 2 units to the left.

e) The graph of $f(x)$ is reflected about the x-axis.

18. If $f(x) = 6 - 2x^2$ and $g(x) = x + 1$, find $(f \circ g)(x)$.

a) $-2x^2 - 4x + 4$

b) $2x^2 - 4x + 4$

c) $-2x^2 + 4x + 4$

d) $2x^2 + 4x - 8$

e) $x^2 + 2x - 4$

19. If $f(x) = 3x - 5$, find $f^{-1}(x)$.

a) $f^{-1}(x) = \dfrac{3}{x+5}$

b) $f^{-1}(x) = \dfrac{x-3}{5}$

c) $f^{-1}(x) = \dfrac{x}{3} + 5$

d) $f^{-1}(x) = \dfrac{x-5}{4}$

e) $f^{-1}(x) = \dfrac{x+5}{3}$

20. Assue that the domain of $f(x)$ and $f^{-1}(x)$ is $(-\infty, \infty)$. Solve $2 + f(x+3) = -5$ when $f^{-1}(-7) = 1$.

a) $x = -2$

b) $x = -5$

c) $x = 5$

d) $x = -3$

e) $x = 3$