

Evaluate the expression for the given value of the variable.

1.  $x - 7; x = 3$

$$1. \underline{x} - 7 : \underline{x} = \underline{3}$$

$$(x) + (-7)$$

$$(3) + (-7)$$

$$-4$$

$$2x$$

↑  
Coe

$$-1x$$

$$(+)(+) = (+)$$

$$(-)(-) = (+)$$

$$(+)(-) = (-)$$

$$(-)(+) = (-)$$

2.  $|2x + 5|; x = -4$

$$2. |2x + 5| : \underline{x = -4}$$

$$| \underline{2(-4)} + 5 |$$

$$| \underline{(-8)} + 5 |$$

$$| \underline{-3} |$$

$$3$$

3.  $-x + 9; x = 5.5$

$$3. -x + 9 : x = \underline{5.5}$$

$$-(5.5) + 9$$

$$-5.5 + 9$$

$$3.5$$

$$\begin{array}{r} 9.10 \\ \cancel{9.0} \\ - 5.5 \\ \hline 3.5 \end{array}$$

4.  $\sqrt{x} - 5; x = 16$

$$4. \sqrt{x} - 5 : \underline{x=16}$$

$$\begin{array}{r} \sqrt{16} - 5 \\ \hline 4 - 5 \\ -1 \end{array}$$

5.  $|x| + 5.7; x = -3.4$

$$5. |x| + 5.7 : \underline{x = -3.4}$$

$$\underline{|(-3.4)| + 5.7}$$

$$3.4 + 5.7$$

$$9.1$$

6.  $\sqrt{-27 \div x}; x = -\frac{3}{4}$

6.  $\sqrt{-27 \div x} \quad : x = -\frac{3}{4}$

$\sqrt{-27 \div (-\frac{3}{4})}$   
 $\uparrow$

$\sqrt{-27 \times (-\frac{4}{3})}$

$\sqrt{\frac{108}{3}}$

$\sqrt{\frac{36}{1}}$

$\frac{\sqrt{36}}{\sqrt{1}}$

$\frac{6}{1}$

6

Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

7.  $3x + 2y$

$$7. 3x + 2y$$

$$3\left(\frac{2}{3}\right) + 2(-3)$$

$$2 - 6$$

$$-4$$

$$2 + (-6)$$

Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

8.  $6x - 4y$

$$8. \underline{6x} - \underline{4y} \quad \underline{x = \frac{2}{3}} \quad \underline{y = -3}$$

$$6\left(\frac{2}{3}\right) - 4(-3)$$

$$\frac{12}{3} + 12$$

$$\rightarrow 4 + 12$$

$$16$$



Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

9.  $\sqrt{-3y} - \frac{3}{4}x$

$$9. \sqrt{-3y} - \frac{3}{4}x$$

$$x = \frac{2}{3} \quad y = -3$$

$$\sqrt{-3(-3)} - \frac{3}{4}\left(\frac{2}{3}\right)$$

$$\sqrt{9} - \frac{1}{2}$$

$$3 - \frac{1}{2}$$

$$\frac{6}{2} - \frac{1}{2}$$

$$\frac{5}{2}$$

Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

10.  $3x + |5y|$

$$\begin{aligned} 10. \quad & 3x + |5y| & x &= \frac{2}{3} & y &= -3 \\ & 3\left(\frac{2}{3}\right) + |5(-3)| & & & & \\ & 2 + |-15| & & & & \\ & 2 + 15 & & & & \\ & 17 & & & & \end{aligned}$$

Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

11.  $\frac{x + 5y}{2x - 2y}$

$$11. \frac{x + 5y}{2x - 2y}$$

$$x = \frac{2}{3}$$

$$y = -3$$

$$\left(\frac{2}{3}\right) + 5(-3)$$

$$\frac{2\left(\frac{2}{3}\right) - 2(-3)}{\frac{2}{3} - 15} = \frac{\frac{4}{3} + 6}{\frac{2}{3} - \frac{45}{3}} = \frac{-\frac{43}{3}}{\frac{4}{3} + \frac{18}{3}} = \frac{-\frac{43}{3}}{\frac{22}{3}}$$

$$= \frac{\frac{2}{3} - 15}{\frac{4}{3} + 6} = \frac{\frac{2}{3} - \frac{45}{3}}{\frac{4}{3} + \frac{18}{3}} = \frac{-\frac{43}{3}}{\frac{22}{3}}$$

$$-\frac{43}{3} \div \frac{22}{3}$$

$$-\frac{43}{\cancel{3}} \times \frac{\cancel{3}}{22}$$

$$-\frac{43}{22}$$

Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

12.  $\frac{4x - 6y}{2y} - \frac{5x}{10y}$

$$\begin{aligned}
 & 12. \quad \frac{4x - 6y}{2y} - \frac{5x}{10y} \\
 & \frac{4\left(\frac{2}{3}\right) - 6(-3)}{2(-3)} - \frac{5\left(\frac{2}{3}\right)}{10(-3)} \\
 & \frac{\frac{8}{3} + 18}{-6} - \frac{\frac{10}{3}}{-30} \\
 & \frac{\frac{62}{3}}{-6} - \frac{\frac{10}{3}}{-30} \\
 & -\frac{62}{18} - \frac{-10}{90} \\
 & -\frac{31}{9} - \frac{-1}{9} \\
 & \frac{-30}{9} = \frac{-10}{3}
 \end{aligned}$$

Evaluate the given expression for  $x = \frac{2}{3}$  and  $y = -3$ .

12.  $\frac{4x - 6y}{2y} - \frac{5x}{10y}$

$$12. \rightarrow \frac{\overset{2}{4}x - \overset{3}{6}y}{\underset{1}{2}y} - \frac{\overset{1}{5}x}{\underset{2}{10}y}$$

$$\frac{3x - 6y}{2y}$$

Evaluate the algebraic expression.

13.  $3(x^3 - y^2 + 3z)$ ;  $x = 4$ ,  $y = -3$ ,  $z = -12$

$$\begin{aligned} 13. & 3(x^3 - y^2 + 3z) \quad x=4 \quad y=-3 \quad z=-12 \\ & 3((4)^3 - (-3)^2 + 3(-12)) \\ & 3(\underline{64 - 9 + (-36)}) \\ & 3(19) \\ & 57 \end{aligned}$$

Evaluate the algebraic expression.

14.  $\sqrt{3a^2 + c} - (b + 3a)$ ;  $a = 3$ ,  $b = 9$ ,  $c = -2$

$$14. \sqrt{3a^2 + c} - (b + 3a) \quad a=3 \quad b=9 \quad c=-2$$

$$\sqrt{3(3)^2 + (-2)} - ((9) + 3(3))$$

$$\sqrt{27 - 2} - 18$$

$$\sqrt{25} - 18$$

$$5 - 18$$

$$-13$$