Evaluate the expression for the given value of the variable.

1. $x - 7; x = 3$

1. $x - 7 : x = 3$

$(x)+(-7)$

$(3)+(-7)$

-4

$2x$

↑

Coe

$-1x$

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

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

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

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

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

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

$|2(-4)+5|$

$|(-8)+5|$

$|-3|$

3

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

3. $-x + 9 \quad : \quad x = 5.5$

$-(5.5) + 9$

$-5.5 + 9$

3.5

$$\begin{array}{r} 8\ 10 \\ 9.0 \\ -\ 5.5 \\ \hline 3.5 \end{array}$$

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

$4.\ \sqrt[2]{x} - 5 \ ; \ x = 16$

$\sqrt{(16)} - 5$

$4 - 5$

-1

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

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

$|(-3.4)| + 5.7$

$3.4 + 5.7$

9.1

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

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

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

$\sqrt{-\frac{27}{1} \times \left(-\frac{4}{3}\right)}$

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

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

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

$\frac{6}{1}$

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

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

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

$4 + 12$

16

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

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

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

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

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

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

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

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

$\frac{5}{2}$

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

10. $3x + |5y|$

10. $3x + |5y|$ $\quad x = \frac{2}{3} \quad y = -3$

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

$2 + |-15|$

$2 + 15$

17

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

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

11. $\frac{x + 5y}{2x - 2y}$ $x = \frac{2}{3}$ $y = -3$

$$\frac{\left(\frac{2}{3}\right) + 5(-3)}{2\left(\frac{2}{3}\right) - 2(-3)} = \frac{\frac{2}{3} - 15}{\frac{4}{3} + 6} \div \frac{\frac{2}{3} - \frac{45}{3}}{\frac{4}{3} + \frac{18}{3}} = \frac{\frac{-43}{3}}{\frac{22}{3}}$$

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

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

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

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

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

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Evaluate the algebraic expression.

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

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Evaluate the algebraic expression.

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

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