

7.4 Practice Problem Answers

Directions: Solve the equation.

1) $|x| = 5$

$x = 5$ or $x = -5$

2) $|r| = \frac{1}{2}$

$r = \frac{1}{2}$ or $r = -\frac{1}{2}$

3) $|3p + 7| = 4$

$3p + 7 = 4$	$3p + 7 = -4$
$-7 \quad -7$	$-7 \quad -7$
<hr/>	<hr/>
$3p = -3$	$3p = -11$
$\frac{3p}{3} = \frac{-3}{3}$	$\frac{3p}{3} = \frac{-11}{3}$
<hr/>	<hr/>
$p = -1$	$p = -\frac{11}{3}$

4) $\frac{3|13 - 2t|}{3} = \frac{15}{3}$

$|13 - 2t| = 5$

$13 - 2t = 5$	$13 - 2t = -5$
$-13 \quad -13$	$-13 \quad -13$
<hr/>	<hr/>
$-2t = -8$	$-2t = -18$
$\frac{-2t}{-2} = \frac{-8}{-2}$	$\frac{-2t}{-2} = \frac{-18}{-2}$
<hr/>	<hr/>
$t = 4$	$t = 9$

5) $4|2k + 3| - 2 = 6$

$\frac{4|2k + 3|}{4} = \frac{8}{4}$

$|2k + 3| = 2$

$2k + 3 = 2$	$2k + 3 = -2$
$-3 \quad -3$	$-3 \quad -3$
<hr/>	<hr/>
$\frac{2k}{2} = \frac{-1}{2}$	$\frac{2k}{2} = \frac{-5}{2}$
<hr/>	<hr/>
$k = -\frac{1}{2}$	$k = -\frac{5}{2}$

Directions: Describe and correct the error in solving the absolute value equation.

$$6) \begin{array}{l} |x + 4| = 13 \\ x + 4 = 13 \\ x = 9 \end{array}$$



It should be -13 or 13 . They just did 13 .

$$x + 4 = -13$$

$$\begin{array}{r} -4 \quad -4 \\ \hline x = -17 \end{array}$$

$$x = -17 \text{ or } 9$$

Directions: Solve the equation if possible.

$$7) |x - 1| + 5 = 2$$

$$\begin{array}{r} -5 \quad -5 \\ \hline |x + 1| = -3 \end{array}$$

NO SOLUTION

$$8) -3 \left| 1 - \frac{2}{3}v \right| = -9$$

$$\begin{array}{r} -3 \quad -3 \\ \hline \left| 1 - \frac{2}{3}v \right| = 3 \end{array}$$

$$\begin{array}{l} 1 - \frac{2}{3}v = 3 \\ -1 \quad -1 \quad -1 \quad -1 \\ \hline -\frac{2}{3}v = 2 \quad \left| \quad \right. \quad -\frac{2}{3}v = -4 \end{array}$$

$$\begin{array}{r} \frac{2}{3}v = 2 \\ \frac{-2}{3} \quad \frac{-2}{3} \\ \hline v = 3 \end{array} \quad \begin{array}{r} \frac{-2}{3}v = -4 \\ \frac{-2}{3} \quad \frac{-2}{3} \\ \hline v = 6 \end{array}$$

$$v = -3 \text{ or } 6$$

$$9) -8 - 9|4p + 2| = -35$$

$$\begin{array}{r} +8 \quad +8 \\ \hline -9|4p + 2| = -27 \\ -9 \quad -9 \quad -9 \quad -9 \\ \hline |4p + 2| = 3 \end{array}$$

$$|4p + 2| = 3$$

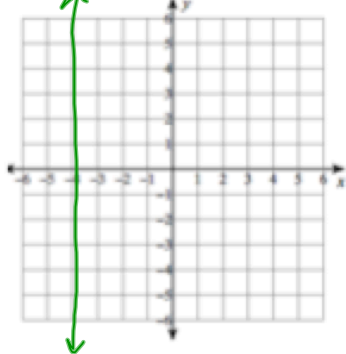
$$\begin{array}{l} 4p + 2 = 3 \\ -2 \quad -2 \\ \hline 4p = 1 \\ \frac{4p}{4} = \frac{1}{4} \end{array} \quad \begin{array}{l} 4p + 2 = -3 \\ -2 \quad -2 \\ \hline 4p = -5 \\ \frac{4p}{4} = \frac{-5}{4} \end{array}$$

$$p = \frac{1}{4} \text{ or } \frac{-5}{4}$$

Skill Review

Graph the line.

$$1) x = -4$$



Evaluate.

$$2) m^2 + 2n^3, \text{ when } m = -6 \text{ and } n = -2$$

$$\begin{array}{l} (-6)^2 + 2(-2)^3 \\ 36 + 2(-8) \\ 36 + -16 \end{array}$$

$$20$$

Solve.

$$3) 14 + 8v = -3(-8v + 6)$$

$$14 + 8v = 24v - 18$$

$$\begin{array}{r} -8v \quad -8v \\ \hline 14 = 16v - 18 \end{array}$$

$$\begin{array}{r} 14 = 16v - 18 \\ +18 \quad +18 \\ \hline 32 = 16v \end{array}$$

$$\frac{32}{16} = \frac{16v}{16}$$

$$2 = v$$