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) $|3p + 7| = 4$

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

$-7 \quad -7$ | $-7 \quad -7$

$\frac{3p}{3} = \frac{-3}{3}$ | $\frac{3p}{3} = \frac{-11}{3}$

$p = -1$ or $p = -\frac{11}{3}$

4) $3|13 - 2t| = 15$

$\frac{3}{3} \quad \frac{15}{3}$

$|13 - 2t| = 5$

$13 - 2t = 5$ | $13 - 2t = -5$

$-13 \quad -13$ | $-13 \quad -13$

$\frac{-2t}{-2} = \frac{-8}{-2}$ | $\frac{-2t}{-2} = \frac{-18}{-2}$

$t = +4$ or $t = 9$

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

$+2 \quad +2$

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

$|2k + 3| = 2$

$2k + 3 = 2$ | $2k + 3 = -2$

$-3 \quad -3$ | $-3 \quad -3$

$\frac{2k}{2} = \frac{-1}{2}$ | $\frac{2k}{2} = \frac{-5}{2}$

$k = -\frac{1}{2}$ or $-\frac{5}{2}$

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

6) $|x + 4| = 13$

$x + 4 = 13$

$x = 9$

x+4 should = -13 or 13. They just did 13.

$x+4=-13$

$-4 \quad -4$

$x = -17$ or 9

Directions: Solve the equation if possible.

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

$-5 \quad -5$

$|x+1| = -3$

NO SOLUTION

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

$\frac{-3}{} \quad \frac{}{-3}$

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

$1 - \frac{2}{3}v = 3$ | $1 - \frac{2}{3}v = -3$

$-1 \quad -1$ | $-1 \quad -1$

$-\frac{2}{3}v = 2$ | $-\frac{2}{3}v = -4$

$\frac{-2}{3} \quad \frac{-2}{3}$ | $\frac{-2}{3} \quad \frac{-2}{3}$

$v = -3$ or 6

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

$+8 \quad +8$

$\frac{-9|4p+2|}{-9} = \frac{-27}{-9}$

$|4p+2| = 3$

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

$-2 \quad -2$ | $-2 \quad -2$

$\frac{4p}{4} = \frac{1}{4}$ | $\frac{4p}{4} = \frac{-5}{4}$

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