Algebra I   Worksheet #4   Unit 5   Selected Solutions

Solve each of the following equations. Show your steps neatly organized.

3. $|3x + 2| = 1$

$3x + 2 = 1$ or $3x + 2 = -1$
$\underline{-2 \quad -2} \qquad \underline{-2 \quad -2}$

$\dfrac{3x}{3} = \dfrac{-1}{3} \qquad \dfrac{3x}{3} = \dfrac{-3}{3}$

$\boxed{x = \dfrac{-1}{3} \quad \text{or} \quad x = -1}$

6. $|5x - 3| = 8$

$5x - 3 = 8$ or $5x - 3 = -8$
$\underline{+3 \quad +3} \qquad \underline{+3 \quad +3}$

$\dfrac{5x}{5} = \dfrac{11}{5} \qquad \dfrac{5x}{5} = \dfrac{-5}{5}$

$\boxed{x = \dfrac{11}{5} \quad \text{or} \quad x = -1}$

11. $|3x + 4| = 6$

$3x + 4 = 6$ or $3x + 4 = -6$
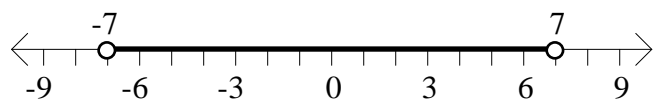$\underline{-4 \quad -4} \qquad \underline{-4 \quad -4}$

$\dfrac{3x}{3} = \dfrac{2}{3} \qquad \dfrac{3x}{3} = \dfrac{-10}{3}$

$\boxed{x = \dfrac{2}{3} \quad \text{or} \quad x = \dfrac{-10}{3}}$

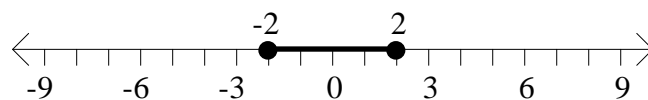Solve for x. Graph the solution sets on the number lines provided.
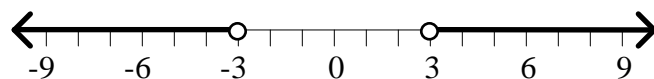
13. $|x| < 7$

$-7 < x < 7$

14. $|x| \le 2$

$-2 \le x \le 2$

17. $|x| > 3$

$x < -3$ or $x > 3$

18. $|x| \ge 1$

$x \le -1$ or $x \ge 1$