Algebra I Worksheet #6 Unit 5 Selected Solutions

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

2. $|8x + 9| = 3$

$8x + 9 = 3$ or $8x + 9 = -3$

$-9 \quad -9 \qquad -9 \quad -9$

$\frac{8x}{8} = \frac{-6}{8} \qquad \frac{8x}{8} = \frac{-12}{8}$

$x = \frac{-3}{4}$ or $x = \frac{-3}{2}$

3. $|4x - 5| = 2$

$4x - 5 = 2$ or $4x - 5 = -2$

$+5 \quad +5 \qquad +5 \quad +5$

$\frac{4x}{4} = \frac{7}{4} \qquad \frac{4x}{4} = \frac{3}{4}$

$x = \frac{7}{4}$ or $x = \frac{3}{4}$

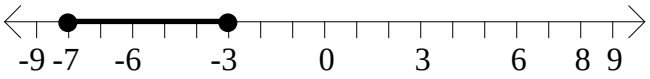
Solve for x. Graph the solution sets on the number lines provided. Show your process neatly organized.

8. $|x + 5| \leq 2$

$-2 \leq x + 5 \leq 2$

$-5 \quad -5 \quad -5$

$-7 \leq x \leq -3$

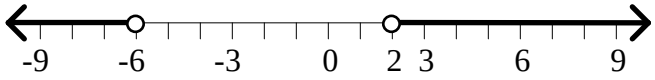


9. $|x + 2| > 4$

$x + 2 < -4$ or $x + 2 > 4$

$-2 \quad -2 \qquad -2 \quad -2$

$x < -6$ or $x > 2$



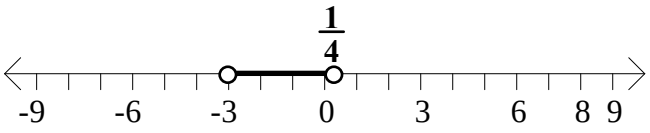
14. $|8x + 11| < 13$

$-13 < 8x + 11 < 13$

$-11 \qquad -11 \quad -11$

$\frac{-24}{8} < \frac{8x}{8} < \frac{2}{8}$

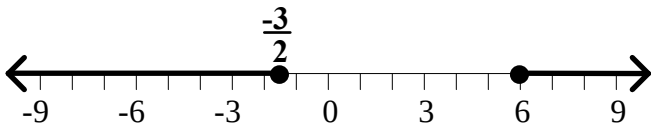
$-3 < x < \frac{1}{4}$



16. $|4x - 9| \geq 15$

$4x - 9 \leq -15$ or $4x - 9 \geq 15$

$+9 \quad +9 \qquad +9 \quad +9$

$\frac{4x}{4} \leq \frac{-6}{4} \qquad \frac{4x}{4} \geq \frac{24}{4}$

$x \leq \frac{-3}{2}$ or $x \geq 6$