Unit II – First Degree Relations with One Placeholder
Part D – Systems of Equations and Inequalities
Lesson 4 – Absolute Value Less Than a Positive Number (and)

Find the solution set for each of the following absolute value relations and show the solution set on a number line and in set notation.

1. $|3m| \leq 12$

2. $|4y - 2| \leq 10$

3. $|4t + 6| \leq 14$

4. $|{}^{-}5 - 7x| \leq 30$

5. $3|x + 1| \leq 18$

6 $7 - |3 - 2x| \geq 5$

7. $\frac{2}{5}|y + 3| < 9$

8. $|m + 5| + 19 \leq 16$

9. $\left|\frac{2}{3} - 4x\right| \leq \frac{4}{5}$

10. $\left|\frac{5 - 3v}{2}\right| < 4$

EXTRA PRACTICE — Answer Key

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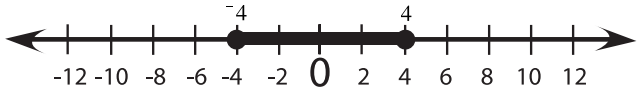
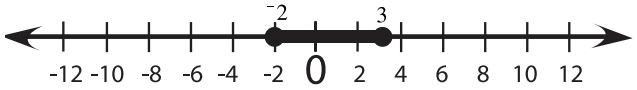
Lesson 4 – Absolute Value Less Than a Positive Number (and)

Find the solution set for each of the following absolute value relations and show the solution set on a number line and in set notation.

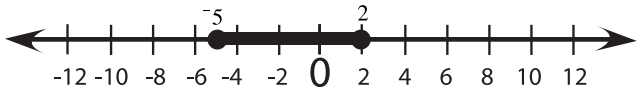
1. $S = \{ m \mid {}^{-}4 \le m \le 4 \}$



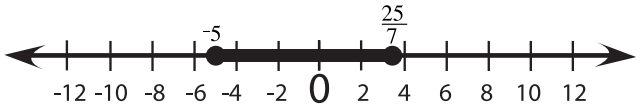
2. $S = \{ y \mid y \ge {}^{-}2 \text{ and } y \le 3 \}$



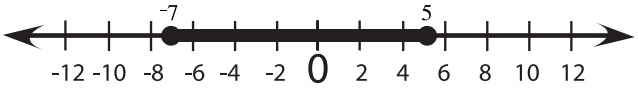
3. $S = \{ t \mid t \ge {}^{-}5 \text{ and } t \le 2 \}$



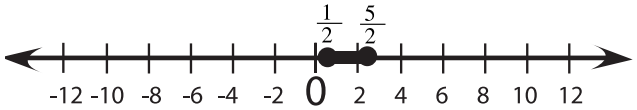
4. $S = \{ x \mid x \le \frac{25}{7} \text{ and } x \ge {}^{-}5 \}$



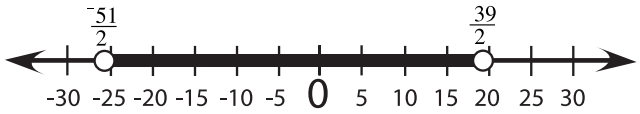
5. $S = \{ x \mid x \ge {}^{-}7 \text{ and } x \le 5 \}$



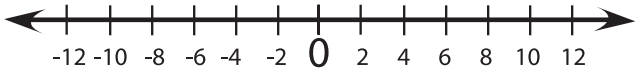
6 $S = \{ x \mid x \le \frac{5}{2} \text{ and } x \ge \frac{1}{2} \}$



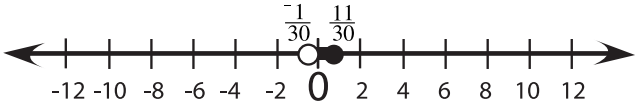
7. $S = \{ y \mid y > \frac{{}^{-}51}{2} \text{ and } y < \frac{39}{2} \}$



8. $S = \{\ \}$ (absolute values are never negative)



9. $S = \{ x \mid x \le \frac{11}{30} \text{ and } x > \frac{{}^{-}1}{30} \}$



10. $S = \{ v \mid v < \frac{13}{3} \text{ and } v > {}^{-}1 \}$