

Absolute Value Equations and Inequalities Exit Quiz

Solve each equation.

1. $|x - 6| = 3$

2. $|3x + 5| = 34$

Solve each inequality then graph its solution.

3. $|11 + x| \leq 6$



4. $|3x - 6| \geq 21$



5. The recommended tire pressure for a car is usually between 30 and 35 psi. Write an absolute value inequality describing the recommended pressure for the car.

Midpoint:

Distance from midpoint:

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ANSWER

Solve each equation.

1. $|x - 6| = 3$

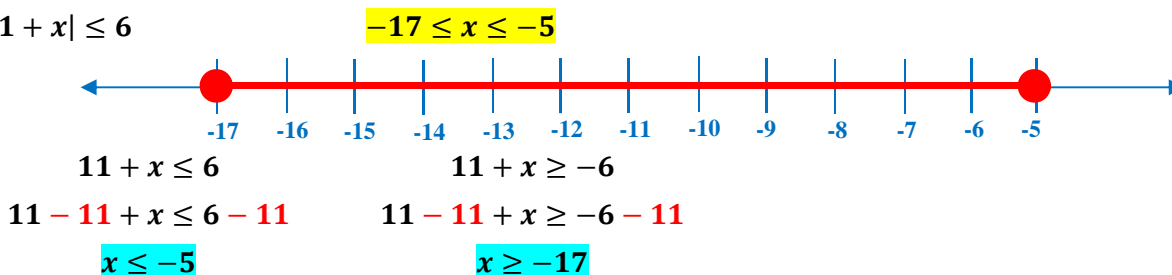
$$\begin{aligned} x - 6 &= 3 & x - 6 &= -3 \\ x - 6 + 6 &= 3 + 6 & x - 6 + 6 &= -3 + 6 \\ x &= 9 & x &= 3 \end{aligned}$$

2. $|3x + 5| = 34$

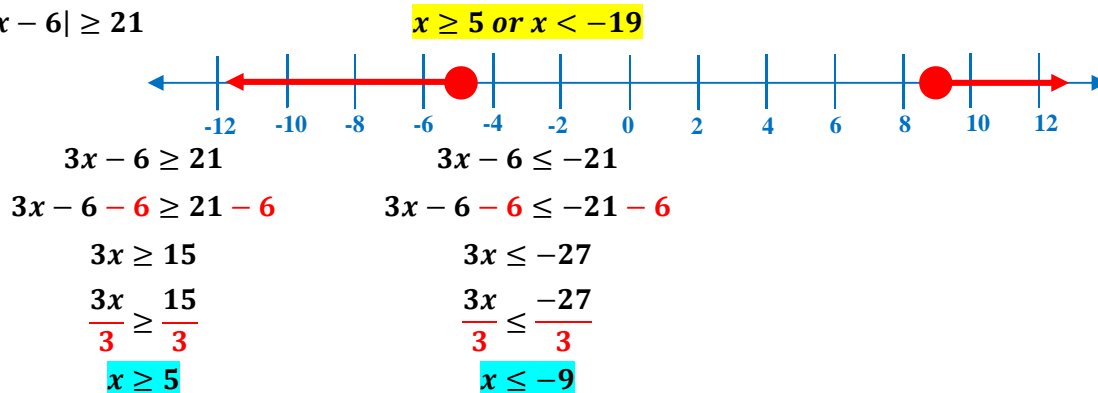
$$\begin{aligned} 3x + 5 &= 34 & 3x + 5 &= -34 \\ 3x + 5 - 5 &= 34 - 5 & 3x + 5 - 5 &= -34 - 5 \\ 3x &= 29 & 3x &= -39 \\ \frac{3x}{3} &= \frac{29}{3} & \frac{3x}{3} &= \frac{-39}{3} \\ x &= \frac{29}{3} & x &= -13 \end{aligned}$$

Solve each inequality then graph its solution.

3. $|11 + x| \leq 6$



4. $|3x - 6| \geq 21$



5. The recommended tire pressure for a car is usually between 30 and 35 psi. Write an absolute value inequality describing the recommended pressure for the car.

$30 \text{ psi} \leq x \leq 35 \text{ psi}$

Midpoint:

$$\frac{35 + 30}{2} = 32.5$$

Distance from midpoint:

$$\begin{aligned} |35 - 32.5| &= 2.5 \\ |30 - 32.5| &= 2.5 \end{aligned}$$

$|x - 2.5| = 32.5$