

Absolute Value Equations and Inequalities

① What are the solutions of $|x|+3=8$? Graph.

$$|x|+3=8$$

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

$$\hline |x|=5$$



$$x=5$$

$$x=-5$$



② $3|5y-7|-6>24$

$$\quad \quad +6 \quad +6$$

$$\hline 3|5y-7|>30$$

$$\quad \quad 3 \quad 3$$

$$|5y-7|>10$$



$$5y-7>10$$

$$\quad +7 \quad +7$$

$$\hline 5y<\frac{17}{5}$$

$$5y-7<-10$$

$$\quad +7 \quad +7$$

$$\hline 5y<\frac{-3}{5}$$

$$y>\frac{17}{5} \text{ or } y<-\frac{3}{5}$$

③ $10+|3m-8|<8$

$$\quad -10$$

$$\quad -10$$

$$\hline |3m-8|<-2$$



The absolute value of an expression cannot be negative.

No Solution

