

$$\textcircled{12} |g+8|=2$$

$$\begin{array}{l} g+8=2 \\ -8 \quad -8 \\ \hline g=-6 \end{array}$$

$$\begin{array}{l} g+8=-2 \\ -8 \quad -8 \\ \hline g=-10 \end{array}$$

$$\textcircled{15} |4n-5|=18$$

$$\begin{array}{l} 4n-5=18 \\ +5 \quad +5 \\ \hline \frac{4n}{4}=\frac{23}{4} \end{array}$$

$$n=\frac{23}{4}$$

$$\begin{array}{l} 4n-5=-8 \\ +5 \quad +5 \\ \hline \frac{4n}{4}=\frac{-13}{4} \\ n=-\frac{13}{4} \end{array}$$

$$n=-\frac{13}{4}$$

$$|2x-5|=9$$

6.6 Graph Abs Value Inequalities

* Remember and/or

And

faster than 45 is slower than 70



ineq: $45 < x < 70$

or

Older than 40 or Younger than 28



ineq: $x < 28$ or $x > 40$

Less than AND

$|x| \leq 4$

#'s that work:
4, 2, 3, 1, .25, 1.75,
-4, -3, -2, -1.75



ineq: $-4 \leq x \leq 4$
 $x \leq 4$ and $x \geq -4$

Absolute Value Greater OR

$|x| > 4$

#'s that work:
7, 0, 5, 6, 10, 100, -4, -5, -10



ineq: $x > 4$ or $x < -4$

Examples - Solve & graph

① $|x+4| \geq 7$
Greater OR

$x+4 \geq 7$ or $x+4 \leq -7$
-4 -4 -4 -4

$x \geq 3$ or $x \leq -11$

② $|4x+5| + 3 < 9$
* Need to fix it first

$|4x+5| < 6$
less than

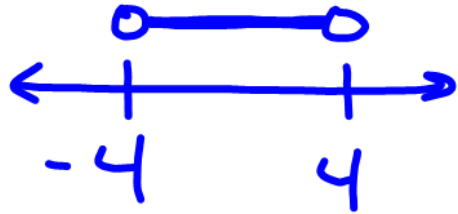
$4x+5 < 6$ or $4x+5 > 6$
-5 -5 -5 -5

$4x < 1$ or $4x > 11$
 $x < \frac{1}{4}$ or $x > \frac{11}{4}$



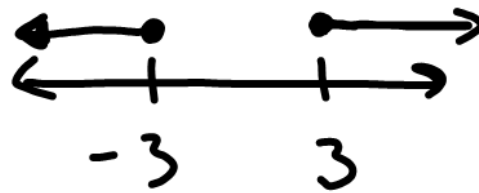
$$\textcircled{3} |x| \overset{\text{less than}}{<} 4$$

$$x < 4 \text{ \& } x > -4$$



$$\textcircled{4} |y| \overset{\text{Greater OR}}{\geq} 3$$

$$y \geq 3 \text{ or } y \leq -3$$



$$\textcircled{5} |h| \overset{\text{or}}{>} 4.5$$

$$\textcircled{9} |d+4| \overset{\text{Greater}}{\geq} 3$$

$$d+4 \geq 3 \text{ or } d+4 \leq -3$$

$$d \geq -1 \text{ or } d \leq -7$$



$$\textcircled{10} |b-5| \overset{\text{less than}}{<} 10$$

$$b-5 < 10 \text{ and } b-5 > -10$$