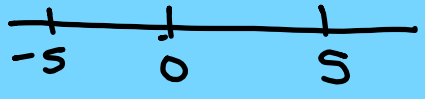
ABSOLUTE VALUE

$|-5| = 5$



$|x| = 4$

$x = 4$ or $x = -4$

$|K+6| = 9$

$K+6 = 9 \quad K+6 = -9$

$K = 3$ OR $K = -15$

$-2|x+2| + 12 = 0$

$-12 \quad -12$

$\frac{-2|x+2|}{-2} = \frac{-12}{-2}$

$|x+2| = 6$

$x+2 = 6$ OR $x+2 = -6$

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

$x = 4 \qquad x = -8$

1) Isolate the abs. value
2) Write + solve 2 equations

$|x+3| = -7$

No solution

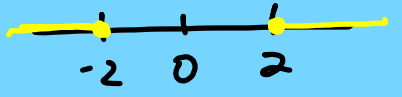
Abs. Value Inequalities

$|x| < 3$

AND

Less Than AND

$|x| \geq 2$



OR

Great OR

$4|6x+2| + 20 > 12$
$\quad -20 \quad -20$

$\frac{4|6x+2|}{4} > \frac{-8}{4}$

$|6x+2| > -2$

R

1) Isolate abs value
2) Write + solve 2 ineq.
3) Graph + name solution

$|3x+5| < -3$

No solution

August 21, 2024

$-5|6x-8|+45 > -15$

$-45 \qquad -45$

$\frac{-5|6x-8|}{-5} > \frac{-60}{-5}$

switch

$|6x-8| < 12$

AND

$6x-8 < 12$

$+8 \quad +8$

$\frac{6x}{6} < \frac{20}{6}$

$x < 10/3$

switch both

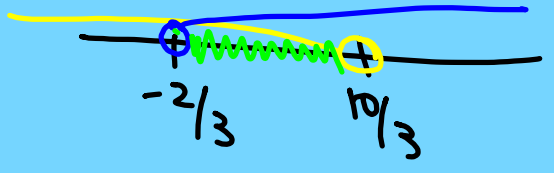
$6x-8 > -12$

$+8 \quad +8$

$\frac{6x}{6} > \frac{-4}{6}$

$x > -2/3$

AND



$-\frac{2}{3} < x < \frac{10}{3}$

Matrix – a rectangular array of numbers enclosed in brackets

$$\begin{bmatrix} 2 & 3 & 4 & 5 \\ -1 & 0 & 8 & -7 \end{bmatrix}$$

element

Dimensions: # of Rows × # of columns

2 × 4

$$\begin{bmatrix} 3 & -6 \\ 4 & 2 \\ 5 & -1 \end{bmatrix} + \begin{bmatrix} 8 & 0 \\ -9 & 3 \\ 5 & 7 \end{bmatrix} = \begin{bmatrix} 11 & -6 \\ -5 & 5 \\ 10 & 6 \end{bmatrix}$$

$$\begin{bmatrix} 2 & -7 \\ 3 & 4 \end{bmatrix} + \begin{bmatrix} 5 & 8 & -7 & 6 \\ 3 & 0 & -2 & 1 \end{bmatrix} = \text{not possible}$$

$$3\begin{bmatrix} 2 & 6 \\ 5 & -1 \end{bmatrix} - \begin{bmatrix} 8 & 7 \\ 9 & -2 \end{bmatrix}$$

$$\begin{bmatrix} 6 & 18 \\ 15 & -3 \end{bmatrix} + \begin{bmatrix} -8 & -7 \\ -9 & 2 \end{bmatrix} = \begin{bmatrix} -2 & 11 \\ 6 & -1 \end{bmatrix}$$

Matrix Multiplication

$(7 \times 5) \cdot (5 \times 3) = 7 \times 3$

$(9 \times 2) \cdot (2 \times 4) = 9 \times 4$

$$\begin{bmatrix} 3 & -2 & 4 \\ 1 & 0 & -5 \end{bmatrix} \cdot \begin{bmatrix} 5 & 0 \\ -2 & 6 \\ -1 & 3 \end{bmatrix} = \begin{bmatrix} 15+4+-4 & 0+-12+12 \\ 5+0+5 & 0+0+-15 \end{bmatrix}$$

2×3 must be same 3×2

2×2

$$= \begin{bmatrix} 15 & 0 \\ 10 & -15 \end{bmatrix}$$