

## memory notes

## Solving equations/inequal.

- Flip the inequality sign when mult./divide by a neg.
- Opposite operations to isolate variable
- Add/Subtract First

① Solve

$$\begin{array}{r}
 7x + 12 \geq 54 \\
 \underline{-12 \quad -12} \\
 7x \geq 42 \\
 \underline{\quad \quad 7} \\
 x \geq 6
 \end{array}$$

② Solve

$$\begin{array}{r}
 2x + 3 = 6x - 13 \\
 \underline{-2x \quad \downarrow \quad -2x} \\
 3 = 4x - 13 \\
 \underline{+13 \quad \quad +13} \\
 16 = 4x \\
 \underline{\quad \quad 4} \\
 4 = x
 \end{array}$$

\* have to get all x's on one side

③ Solve

$$\begin{array}{r} \frac{x}{-4} + 6 \leq 14 \\ \hline \frac{x}{-4} \leq 8 - 6 \\ \frac{x}{-4} \leq 2 \end{array}$$

~~$\frac{x}{-4} \leq 8 - 4$~~

$x \geq -32$

④

Solve

$$\frac{x}{5} + 4 = 2$$

- \* Add/subtract first
- \* mult./divide second
- \* Flip inequality when you mult/div. by a negative

\* mult./divide to isolate variable.

① Solve

$$\begin{array}{r} -3x - 4 > 26 \\ +4 \quad +4 \\ \hline \end{array}$$

$$\begin{array}{r} -3x > 30 \\ \hline \end{array}$$

$$\begin{array}{r} -3 > -3 \\ \hline \end{array}$$

$$x < -10$$

Solve

(2)  $3x - 12 = 2x + 10$

\* Get all X's on one Side, All #'s on the other.

$$\begin{array}{r} 3x - 12 = 2x + 10 \\ -2x \quad \quad -2x \\ \hline x - 12 = 10 \\ +12 \quad \quad +12 \\ \hline x = 22 \end{array}$$

Solve

(3)  $-4x - 5 < 2x - 17$

$$\begin{array}{r} -4x - 5 < 2x - 17 \\ +4x \quad \quad +4x \\ \hline -5 < 6x - 17 \\ +17 \quad \quad \downarrow +17 \\ \hline 12 < 6x \\ \hline 2 < x \end{array}$$