

Name

5.1 Solve Inequalities

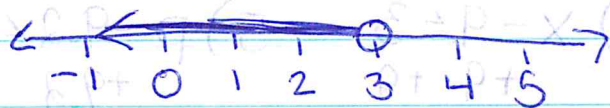
Alg I

Using Addition and Subtraction

I can solve inequalities using addition and subtraction.

Graph of an inequality: The set of points on a number line that represent all solutions of the inequality

Ch 5 Quiz



$$x < 3$$

$$x < 0 \text{ or } x > 0$$



$$x \geq -1$$

$$x \leq 0 \text{ or } x \geq 0$$

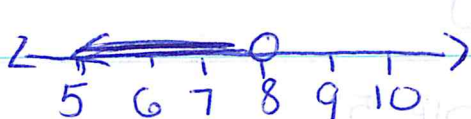
Example 1:

1) $x \geq -129$

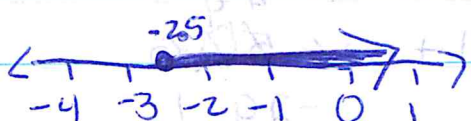


Example 2:

2) $x < 8$



3) $x \geq -2.5$



Name

Solve Inequalities Using Addition and Subtraction

Alg I

I can solve inequalities using addition and subtracting.

Equivalent Inequalities: Inequalities that have the same solutions.

Ch. 5 Quiz

Example 3:

$$\begin{array}{r}
 4) \ x - 9 \leq 3 \\
 \quad +9 \quad +9 \\
 \hline
 \boxed{x \leq 12}
 \end{array}
 \qquad
 \begin{array}{r}
 5) \ p - 9.2 < -5.0 \\
 \quad +9.2 \quad +9.2 \\
 \hline
 \boxed{p < 4.2}
 \end{array}$$



Addition Property of Inequality:

• If $a > b$, then

$$a + c > b + c$$

• If $a < b$, then

$$a + c < b + c$$

$$\begin{array}{r}
 6) \ -1 > m - \frac{1}{2} \\
 \quad +\frac{1}{2} \quad +\frac{1}{2} \\
 \hline
 \boxed{-\frac{1}{2} > m}
 \end{array}$$

$$\begin{array}{r}
 -\frac{1}{2} + \frac{1}{2} = -\frac{2}{2} + \frac{1}{2} = -\frac{1}{2}
 \end{array}$$



Example 4:

Subtraction Property of Inequality:

• If $a > b$, then

$$a - c > b - c$$

• If $a < b$, then

$$a - c < b - c$$

$$\begin{array}{r}
 7) \ y + 5.5 > 6.0 \\
 \quad -5.5 \quad -5.5 \\
 \hline
 \boxed{y > 0.5}
 \end{array}$$



Example 5:

$$\begin{array}{r}
 8) \ 29.1 + w \leq 30.0 \\
 \quad -29.1 \quad -29.1 \\
 \hline
 \boxed{w \leq 0.9}
 \end{array}$$

*Complete Skills Practice, pg. 301, #