

If an inequality results in a false statement, the solution set is the empty set. (no solution)

$$8k + 2 - 3k - 4 < 5(k - 7) + 8$$

$$5k + 16 - 3k + 2 < 5k - 35 + 8$$

~~$$5k + 16 - 3k + 2 < 5k - 35 + 8$$~~

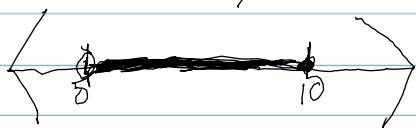
$$\begin{array}{r} 5k + 28 < 5k - 27 \\ -5k & -5k \\ \hline 28 < -27 \end{array}$$

Compound inequality - has to satisfy two sets of conditions

If the compound inequality uses the word "and", then both conditions must be true

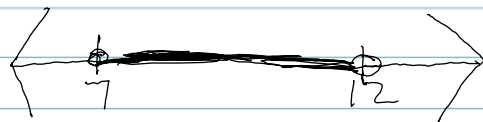
$$x > 5 \text{ and } x \leq 10$$

~~$$5 < x \leq 10$$~~ 
$$5 < x \leq 10$$



$$7 < x < 12$$

$$9 \leq x < 15$$



$$3 < 2x - 3 < 15$$

