

4.2 Solving Inequalities by Adding or Subtracting p. 132

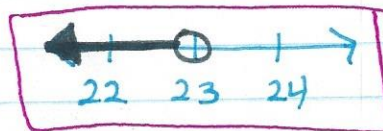
* Keep everything organized and lined up.

$$\begin{array}{r} n - 8 = 15 \\ +8 \quad +8 \\ \hline n = 23 \end{array}$$

$$\begin{array}{r} n - 8 < 15 \\ +8 \quad +8 \\ \hline \end{array}$$

$$n < 23$$

← solution of the inequality



← graph of the inequality

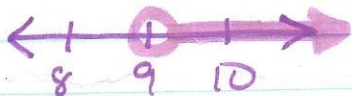
How do we check solutions of inequalities?

- choose a number different from the solution
- choose a number your arrow touches

ex: $22 - 8 < 15$
 $14 < 15 \checkmark$

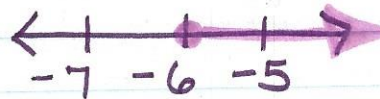
1) $12 < t + 3$

$$\begin{array}{r} -3 \quad -3 \\ \hline 9 < t \quad t > 9 \end{array}$$



2) $f - 5 \geq -11$

$$\begin{array}{r} +5 \quad +5 \\ \hline f \geq -6 \end{array}$$



3) The difference between a number and eleven is less than eight.

$$\begin{array}{r} n - 11 < 8 \\ +11 \quad +11 \\ \hline \end{array}$$

$$n < 19$$

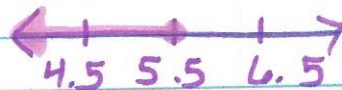
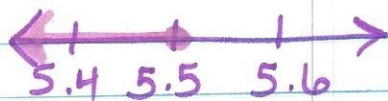


4) The sum of a number and seventeen is no more than six.

$$\begin{array}{r} n + 17 \leq 6 \\ -17 \quad -17 \\ \hline n \leq -11 \end{array}$$



5) $b - 3.8 \leq 1.7$
 $+ 3.8 \quad + 3.8$
 $\hline b \leq 5.5$



6) $-\frac{1-2}{2} > j - \frac{1}{4}$
 $+ \frac{1}{4} \quad + \frac{1}{4}$
 $\hline -\frac{1}{4} > j$

$$-\frac{1}{4} > j$$

or $j < -\frac{1}{4}$

