

Inequality Word Problems

Solving inequality word problems follows similar rules as for equation word problems.

Example: Harry wants to make over \$ 500 per week selling cars. He receives \$100 in salary each week and gets a commission of \$50 a car. How many cars does he have to sell to receive more than \$500 a week?

1. Let x equal the unknown. x = the number of cars to sell.
2. With other unknowns make them into a relationship with the primary (x).
let $x(50)$ = the amount of commission Harry will receive.

3. Make 2 expressions be $>$ or $<$ to each other.

$$\begin{array}{l} \text{commission} + \text{salary} > \text{total} \\ 50x + 100 > 500 \end{array}$$

4. Solve

Note: Whenever you multiply or divide both sides of an inequality by a negative number the sign of the inequality changes direction.