

1.5 Solving Inequalities

$$3 < 5$$

Solve an inequality same as an equation, using properties of equality. Be careful of operations with negative numbers. The solution can be displayed in different ways.

Set builder notation

Interval notation

Number line

Word problems

- ◆ Is less than
- ◆ Is fewer than
- ◆ Is at most
- ◆ Is no more than
- ◆ Is less than or
equal to
- ◆ Is greater than
- ◆ Is more than
- ◆ Is at least
- ◆ Is no less than
- ◆ Is greater than or
equal to

Ex: Solve $12 \geq -0.3p$

Ex: Solve

$$-x > \frac{x-7}{2}$$

Ex: Solve $\frac{5z + 2}{4} < \frac{5z}{4} + 2$

#39 David earns \$5.60 an hour working at Box Office Videos. Each week, 25% of his total pay is deducted for taxes. If David wants his take-home pay to be at least \$105 a week, solve the inequality

$$5.6x - 0.25(5.6x) \geq 105$$

to determine how many hours he must work.