



## SOLVING MULTI-STEP INEQUALITIES

Which is NOT a solution of the inequality  $10 - 3x \geq -8$ ?

- A. -2
- B. 0
- C. 6
- D. 10

**EXAMPLES:** Solve each inequality and graph the solution.

1.  $-2 \geq 7x - 2(x - 4)$



2.  $18 \geq -5(x + 2) - 3x$



Use this table to help you write inequalities from word problems.



$<$	$>$	$\leq$	$\geq$
Less than Fewer	More than Over Exceed	Up to Maximum At most No more than	At least No less than

**EXAMPLES:** Write an inequality for each situation.

3. Melanie's tree has grown 4 inches since she bought it. The store owner said it would grow at least 10 inches. How tall was the tree when she bought it?

4. For adults, the maximum safe water temperature in a spa is  $104^{\circ}\text{F}$ . The water temperature in Bill's spa is  $100^{\circ}\text{F}$ . How many degrees can Bill safely raise the temperature in his spa?

**EXAMPLES: Write an inequality and solve.**

5. To rent a certain vehicle, Hertz charges \$55.00 a day with unlimited miles. The cost of renting a similar vehicle at Avis is \$38.00 a day plus \$0.20 per mile. For what number of miles is the cost at Hertz less than the cost at Avis?

6. To win the blue ribbon for the Heaviest Pumpkin Crop at the county fair, the average weight of Kelsey's two pumpkins must be greater than 819 pounds. One of her pumpkins weighs 887 pounds. What is the least the other pumpkin could weigh for Kelsey to win the blue ribbon?