
 Day 4 & 5: Creating Inequalities Additional Practice

Directions: Create an inequality to represent each of the following scenarios

- 1 In many states, you must be at least 16 years old to obtain a driver's license $x \geq 16$
- 2 It is not safe to use a light bulb of more than 60 watts in this light fixture $x > 60$
- 3 The Navy's flying squad, the Blue Angels, makes more than 75 appearances each year $x > 75$
- 4 Applicants must have at least 5 years of experience $x \geq 5$
- 5 The maximum speed on North Ankeny Boulevard is 40 mph $x \leq 40$
- 6 Kids 12 and under get a discount at Golden Corral $x \leq 12$
- 7 Harriet's goal is to weigh no more than 140 lbs $x \leq 140$
- 8 Amazon is offering free shipping on orders with a minimum of \$100 $x \geq 100$
- 9 You must be at least 16 years old to get a driver's license $x \geq 16$
- 10 Students may receive no more than 3 tardies before receiving a detention $x \leq 3$

Directions: Create and solve an inequality to represent the following scenarios

11 Suppose you earn \$6.15 per hour working part time at a dry cleaner. Write and solve an inequality to find how many full hours you must work to earn at least \$100.

$$x: \# \text{ of hours} \quad \frac{6.15x}{6.15} \geq \frac{100}{6.15}$$

$$x \geq 16.3$$

You must work at least 17 hours to make \$100.

12 Students in the school band are selling calendars. They earn \$0.40 on each calendar they sell. Their goal is to earn more than \$327. Write and solve an inequality to find the fewest number of calendars they can sell and still reach their goal.

$$x: \# \text{ of calendars} \quad \frac{.40x}{.40} > \frac{327}{.40}$$

$$x > 817.5$$

They must sell at least 818 calendars to make more than \$327.

13 A car rental agency rents cars for \$26.20 per day plus \$0.24 per mile driven. If your travel budget is \$200, what is the maximum number of miles you can drive during a 1-day rental assuming you cannot pay for partial miles?

$$\begin{array}{l}
 x: \# \text{ of miles} \\
 26.20 + 0.24x \leq 200 \\
 \underline{-26.20} \qquad \qquad \qquad \underline{-26.20} \\
 0.24x \leq 173.80 \\
 \underline{0.24} \qquad \qquad \qquad \underline{0.24} \\
 x \leq 724.2
 \end{array}$$

The max number of miles is 724 miles to stay within budget.

14 Suppose that you are running a concession stand when a person gives you \$18 and asks for six soft drinks and as many hot dogs as the remaining money will buy. If soft drinks are \$1.00 and hot dogs are \$1.75, what is the maximum number of hot dogs the person can buy?

x: # of hot dogs

$$\begin{array}{l}
 6.00 + 1.75x \leq 18 \\
 \underline{-6.00} \qquad \qquad \qquad \underline{-6.00} \\
 1.75x \leq 12 \\
 \underline{1.75} \qquad \qquad \qquad \underline{1.75} \\
 x \leq 6.9
 \end{array}$$

The max amount of hot dogs to purchase is 6 hot dogs to stay under \$18.