

Day 5 - Solving Inequalities from a Context - Practice

1. Suppose a DVD costs \$19 and a CD costs \$14. How many CDs can you buy if you have at most \$65 to spend and you bought 1 DVD?

Inequality: $19 + 14x \leq 65$

$$\begin{array}{r} 19 + 14x \leq 65 \\ -19 \quad -19 \\ \hline 14x \leq 46 \\ \frac{14x}{14} \leq \frac{46}{14} \\ x \leq 3.3 \end{array}$$

The most CDs you can buy are 3 CDs.

2. Joan needed \$100 to buy a graphing calculator for her math class. Her neighbor will pay her \$5 per hour to babysit and her Father gave her \$10 for mowing the lawn. What is the minimum amount of hours she will need to babysit in order for her to buy her calculator?

Inequality: $5x + 10 \geq 100$

$$\begin{array}{r} 5x + 10 \geq 100 \\ -10 \quad -10 \\ \hline 5x \geq 90 \\ \frac{5x}{5} \geq \frac{90}{5} \\ x \geq 18 \end{array}$$

Joan needs to work at least 18 hours to buy her calculator.

3. The cost of a gallon of orange juice is \$3.50. What is the maximum number of containers you can buy for \$15?

Inequality: $3.50x \leq 15$

$$\begin{array}{r} 3.50x \leq 15 \\ \frac{3.50x}{3.50} \leq \frac{15}{3.50} \\ x \leq 4.3 \end{array}$$

The most containers you can buy for \$15 is 4 containers.

4. Skate Land charges a \$50 flat fee for a birthday party rental and \$5.50 for each person. Joann has no more than \$100 to spend on the birthday party. How many people can Joann invite to her birthday party without exceeding her limit?

Inequality: $50 + 5.50x \leq 100$

$$\begin{array}{r} 50 + 5.50x \leq 100 \\ -50 \quad -50 \\ \hline 5.50x \leq 50 \\ \frac{5.50x}{5.50} \leq \frac{50}{5.50} \\ x \leq 9.1 \end{array}$$

The most people that can attend is 9 people.