Day 9 – Creating and Solving Inequalities Practice Key

te an inequality that models the situation. You do NOT have to solve!

Eight times the difference of w and 7 is greater than or equal ($\geq$) to -2.

$8(w-7) \geq -2$

In order to ride the Triple Threat Roller Coaster, a rider must be at least ($\geq$) 42 inches tall.

$r \geq 42$

/rite an inequality that can be used to model the following problem. Then, use your equation or inequality to OLVE the problem.

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

nequality: $19 + 14c \leq 65$

$19 + 14c \leq 65$
$-19 \quad -19$
$14c \leq 46$
$\frac{14c}{14} \leq \frac{46}{14}$

$c \leq 3.3$ (can't have a fraction of a CD)

You can purchase no more than 3 CDs.

4. 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 $10 for mowing the lawn. What is the minimum amount ($\geq$) of hours she will need to babysit in order for her to buy her calculator?

Inequality: $5h + 10 \geq 100$

$5h + 10 \geq 100$
$-10 \quad -10$
$\frac{5h}{5} \geq \frac{90}{5}$

$h \geq 18$

Joan needs to work 18 hours or more.

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

Inequality: $3.50x \leq 15$

$\frac{3.50x}{3.50} \leq \frac{15}{3.50}$

$x \leq 4.3$ gallons
(can't have fraction of a gallon)

You can buy no more than 4 gallons of OJ.

ndations of Algebra — Unit 4: Equations & Inequalities — Practice

kate Land charges a $50 flat fee for a birthday party rental and $5.50 for each person. Joann has no more n $100 to spend on the birthday party. How many people can Joann invite to her birthday party without :eeding her limit?

quality: $50 + 5.50x \leq 100$

$-50 \quad -50$

$\frac{5.50x}{5.50} \leq \frac{50}{5.50}$

$x \leq 9.1$ people

(can't have a fraction of a person)

Joann can invite 9 or less people.

Mrs. Scott decided that she would spend no more than $120 to buy a jacket and skirt. If the price of the :ket was $20 more than 3 times the prices of the skirt, find the highest possible price of the skirt.

equality: $s + j \leq 120$

rt $s + 3s + 20 \leq 120$

ket s, $3s + 20$

$4s + 20 \leq 120$

$-20 \quad -20$

$\frac{4s}{4} \leq \frac{100}{4}$

$s \leq 25$

The highest price for a shirt can be $25.

Stephanie weights 3 times as much as Rachel. Both weights are whole numbers and the sum of their weights at most 160 pounds. Find the greatest possible weight for each girl.

equality: $s + r \leq 160$

ephanie $3r + r \leq 160$

achel

$\frac{4r}{4} \leq \frac{160}{4}$

$r \leq 40$ lbs

$S = 3(40) = 120$ lbs

Rachel can weigh up to 40 pounds and Stephanie can weigh up to 120 pounds.

9. The cost per month of making n number of wooden toys is $C = 3n + 30$. The income from selling n toys is $I = 6n$. How many toys must the company sell to make a profit (Profit means the income is greater than the cost)?

Inequality: $I > C$

$6n > 3n + 30$

$-3n \quad -3n$

$\frac{3n}{3} > \frac{30}{3}$

$n > 10$

$I > C$

The company must sell more than 10 toys to make a profit.