Understanding Inequalities

>	≥	<	≤
is more than is greater than is larger than above	minimum at least is not less than not smaller than	is smaller than is less than below Under	maximum at most not more than is not greater than
Greater than (>)	Greater than or equal to (≥)	less than (<)	less than or equal to (≤)

Feb 13-3:16 PM

Write an inequality that represents each situation. Then answer the questions below.

1.) There must be at least 20 club members present in order to hold a meeting.

Inequality: $X \geq 20$

What is the minimum number of club members needed for a meeting? 20

2.) A trainer advises an athlete to keep his heart rate under 140 beats per minute.

Inequality: $X < 140$

What is the maximum heart rate (whole number) that an athlete should have? 139

3.) The maximum speed allowed on Main Street is 30 mph.

Inequality: $X \leq 30$

What is the greatest speed a driver can have on Main Street? 30

4.) To ride on a roller coaster, a person must be greater than 48 inches tall.

Inequality: $X > 48$

What is the minimum height (whole number) a person can be to ride a roller coaster? 49

Feb 13-3:19 PM

2-step Inequality Word Problems

* Look for Variable Key Words
  ↳ Each, per, Every, a/an

* Look for Inequality Key Words & Decide what Sign to use (> or < or ≥ or ≤)

* Label and Interpret your answer.

Feb 13-3:19 PM

1. Daniel had $25 to spend at the fair. If the admission to the fair is $4 and the rides cost $1.50 each, what is the greatest number of rides Daniel can go on? ***Write and solve an inequality and interpret your solution.***

$4 + 1.5x \leq 25$
$-4 \quad -4$

$1.5x \leq 21$
$\frac{1.5x}{1.5} \leq \frac{21}{1.5}$

$x \leq 14$ rides

He can ride a maximum of 14 rides.

Feb 26-8:45 AM

2. The seventh grade class is putting on a variety show to raise money. It cost $700 to rent the banquet hall that they are going to use. If they charge $15 for each ticket, how many tickets do they need to sell in order to raise at least $1000? ***Write and solve an inequality and interpret your solution.***

$15x - 700 \geq 1000$

$+700 \quad +700$

$\frac{15x}{15} \geq \frac{1700}{15}$

$x \geq 113.3$ tickets

They need to sell at least 114 tickets

Feb 26-8:47 AM

3. Trinity had $500 in a saving account at the beginning of the summer. She wants to have at least $200 in the account by the end of the summer. She withdraws $25 each week for food, clothes, and movie tickets. How many weeks can Trinity withdraw money from her account? ***Write and solve an inequality and interpret your solution.***

$500 - 25x \geq 200$

$-500 \quad -500$

$\frac{-25x}{-25} \leq \frac{-300}{-25}$

$x \leq 12$ weeks

She can withdraw money for 12 weeks or less.

Feb 26-8:48 AM