Write an inequality to describe the situation.

Simplify the following inequalities.

Decide which number line belongs to which compound inequality.

Solve the inequality.

Determine the opposite inequality.

with lots of tips, answer keys, and detailed answer explanations for all of the problems.
Write an inequality to describe the situation.

Fill in the blanks.

Jerry and Larry want to ride the roller coaster, but there is a little problem concerning their heights.

You're only allowed to ride the roller coaster if you are at least 4 feet 7 inches and shorter than 6 feet 3 inches.

At least 4 feet 7 inches can be written mathematically as:

\[ \text{6 ft 3 inch} \geq \text{4 ft 7 inch} \]

Shorter than 6 feet 3 inches can be written as:

\[ \text{4 ft 7 inch} < \text{6 ft 3 inch} \]

Combining these expressions together gives us the compound inequality:

\[ \text{4 ft 7 inch} \leq x < \text{6 ft 3 inch} \]
Hints for solving these problems

Write an inequality to describe the situation.

Hint #1

The phrases less than, at most, between, more than, or at least have special meanings in math.

Hint #2

For example, more than means >. The equal sign is not included.

Hint #3

At most 10 means ≤ 10 and 10 is included.
Write an inequality to describe the situation.

Answer key: 1: 4 ft 7 inch // 2: \( \leq \) // 3: \(<\) // 4: 6 ft 3 inch // 5: 4 ft 7 inch // 6: \( \leq \) // 7: 6 ft 3 inch

Jerry and Larry want to ride the rollercoaster. They have a problem with the minimum and maximum height allowed to ride the roller coaster.

- **At least** 4 feet 7 inches can be expressed mathematically using \( \geq \). So \( x \geq 4 \text{ feet 7 inches} \) or 4 feet 7 inches \( \leq x \).
- **Shorter than** 6 feet 3 inches can be expressed as \( x < 6 \text{ feet 3 inches} \).

Combining the two expressions, we get the compound inequality 4 feet 7 inches \( \leq x < 6 \text{ feet 3 inches} \).