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Solving Two-Step Inequalities

50

5

$(x - 2)$

2

$$(x - 2) \times 5 \leq 50$$

Distributive Property

$$5x - 10 \leq 50$$

opposite operation on both sides

$$+10 \quad +10$$
$$\frac{5x}{5} \leq \frac{60}{5}$$

sign stays the same

$$x \leq 12$$

- 1 Describe the meaning of the inequality sign \leq .
- 2 Determine how Miss. Crazycat can estimate the number of cats.
- 3 Estimate the number of cats in Miss. Crazycat's apartment.
- 4 Write an inequality to describe a number line.
- 5 Describe how Miss. Crazydog can estimate the number of dogs living in her home.
- 6 Solve the following inequalities.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.

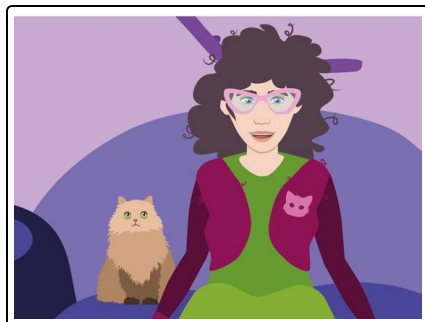


The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



Describe the meaning of the inequality sign \leq .

Choose the correct description.



After thinking about it for a bit, Miss Crazycat estimates the number of cats living in her apartment is $x \leq 12$.

- A
This means that she has fewer than 12 cats.
- B
This means that she has, at most, 12 cats.
- C
This means that she has exactly 12 cats.
- D
This means that she has at least 12 cats.
- E
This means that she has more than 12 cats.



Hints for solving these problems

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Describe the meaning of the inequality sign \leq .

Hint #1

\leq means less than **OR** equal to.

Hint #2

$<$ means **less than**.

Hint #3

There's a difference between **less than** and **at most** as well as between **more than** and **at least**.



Answers and detailed answer explanations for these problems

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of 6

Describe the meaning of the inequality sign \leq .

Answer key: B

The number of Miss Crazycat's cats can be expressed using the inequality $x \leq 12$.

What does this mean? The number of cats is, at most, 12.

- **Less than 12** is written as $x < 12$.
- **More than 12** is written as $x > 12$.
- **At least 12** is written as $x \geq 12$.
- **Equal to 12** is written as $x = 12$.