

Equation Situation Lab

Turn real conditions into equations and inequalities.

GRADE 6 • TEKS 6.9.A

6.9.A "write one-variable, one-step equations and inequalities to represent constraints or conditions within problems;"

NAME _____

DATE _____

MATCH THE CONDITION

Use = when two amounts are exactly the same. Use an inequality when a situation has a limit or rule, such as no more than or at least. Let x stand for the unknown amount, then match the operation in the situation.

WORKED EXAMPLE

A streaming subscription costs \$6 per month. The total cost is \$42 for x months. Write and solve an equation.

1. Let x represent the number of months.
2. Write $6x = 42$.
3. Divide both sides by 6.
4. $x = 7$

Answer: $x = 7$ months

PRACTICE 6 problems

- 1** You have x stickers. After you give away 8 stickers, you have 13 left. Write an equation.

ANSWER _____

- 2** A backpack can hold no more than 15 pounds. It already has 9 pounds in it. Let x be the pounds you add. Write an inequality.

ANSWER _____

- 3** Movie tickets cost \$11 each. You have \$55 to spend. Let x be the number of tickets you can buy. Write an inequality.

ANSWER _____

- 4** A pool pass costs \$18. Let x be the amount of change you receive from a \$30 bill. Write an equation.

ANSWER _____

- 5** Your score, x , is split equally among 4 rounds. Each round has 12 points. Write an equation.

ANSWER _____

- 6** A temperature starts at 92 degrees and drops x degrees. It must stay above 70 degrees. Write an inequality.

ANSWER _____

APPLY IT Show your work

- 1** At a gaming tournament, a round may last no more than 90 minutes. Your team has already used 35 minutes. Let x be the number of additional minutes your team may use. Write an inequality.

WORK SPACE

ANSWER _____

- 2** Maya is saving for headphones that cost \$80. She already has \$26. Let x be the number of dollars she still needs. Write an equation.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A coding club needs at least 25 participants for a competition. Nineteen students have signed up. Let x be the number of additional students who sign up. Write an inequality. Then explain why you used $\geq$ instead of $=$.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	You have x stickers. After you give away 8 stickers, you have 13 left. Write an equation.	$x - 8 = 13$
2	A backpack can hold no more than 15 pounds. It already has 9 pounds in it. Let x be the pounds you add. Write an inequality.	$x + 9 \leq 15$
3	Movie tickets cost \$11 each. You have \$55 to spend. Let x be the number of tickets you can buy. Write an inequality.	$11x \leq 55$
4	A pool pass costs \$18. Let x be the amount of change you receive from a \$30 bill. Write an equation.	$18 + x = 30$
5	Your score, x , is split equally among 4 rounds. Each round has 12 points. Write an equation.	$x / 4 = 12$
6	A temperature starts at 92 degrees and drops x degrees. It must stay above 70 degrees. Write an inequality.	$92 - x > 70$

PART 2 • APPLY IT

1. $x + 35 \leq 90$ The total time is the 35 minutes already used plus x additional minutes. Because the round cannot be longer than 90 minutes, use $\leq$.
2. $x + 26 = 80$ Maya's saved money plus the dollars she still needs must equal the headphone price.

CHALLENGE

$19 + x \geq 25$. The club may have 25 participants or more, so the total does not have to equal exactly 25.

Accept equivalent equations and inequalities with terms in a different order. Accept a correctly solved equivalent inequality when it represents the same condition and still uses x .