

Symbol Story Studio

Turn equations and inequalities into real-life questions.

GRADE 7 • TEKS 7.10.C

7.10.C "write a corresponding real-world problem given a one-variable, two-step equation or inequality."

NAME _____

DATE _____

MATCH THE PARTS

An equation shows that two amounts are equal. An inequality compares an amount to a limit, such as at least or no more than. Let x represent one repeating amount, then make the coefficient a per-item rate and the constant a starting amount, fee, or change.

WORKED EXAMPLE

Write a real-world problem that matches $4x + 7 = 31$.

1. Let x be the cost of one sticker pack in dollars.
2. Use $4x$ for the cost of four sticker packs.
3. Use 7 for an extra delivery fee.
4. Use 31 for the total cost.

Answer: An art club buys 4 sticker packs that cost x dollars each and pays a \$7 delivery fee. The total cost is \$31. What is the cost of one sticker pack?

PRACTICE 6 problems

- 1** Write a real-world problem that matches $3x + 6 = 24$.

ANSWER _____

- 2** Write a real-world problem that matches $8x - 2 = 38$.

ANSWER _____

- 3** Write a real-world problem that matches $9 + 2x \leq 25$.

ANSWER _____

- 4** Write a real-world problem that matches $5x - 1 > 19$.

ANSWER _____

- 5** Write a real-world problem that matches $6 + 10x = 56$.

ANSWER _____

- 6** Write a real-world problem that matches $11x + 3 \geq 36$.

ANSWER _____

APPLY IT Show your work

- 1** Equation: $18 + 6x = 54$. Write a real-world problem about custom team jerseys that matches the equation.

WORK SPACE

ANSWER _____

- 2** Inequality: $12 + 9x \leq 75$. Write a real-world problem about planning a club event that matches the inequality.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Equation: $\frac{1}{2}x + 13 = 29$. Write a real-world problem that matches the equation. Then explain what x , $\frac{1}{2}$, 13, and 29 mean in your problem.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write a real-world problem that matches $3x + 6 = 24$.	Three notebooks cost x dollars each. With a \$6 shipping fee, the total is \$24. What is the cost of one notebook?
2	Write a real-world problem that matches $8x - 2 = 38$.	A game shop earns 8 prize credits for each of x tournament wins, then spends 2 credits on a banner. It has 38 credits left. How many tournament wins did it have?
3	Write a real-world problem that matches $9 + 2x \leq 25$.	A student starts with 9 reading points and earns 2 points for each of x reading challenges. The student may have no more than 25 points. How many challenges can the student complete?
4	Write a real-world problem that matches $5x - 1 > 19$.	A phone game gives 5 tokens to each of x players, then removes 1 token as a fee. The group must have more than 19 tokens. How many players can be in the group?
5	Write a real-world problem that matches $6 + 10x = 56$.	A music app charges a \$6 setup fee and \$10 for each of x months. The total cost is \$56. How many months does the subscription last?
6	Write a real-world problem that matches $11x + 3 \geq 36$.	A fundraiser begins with \$3 and earns \$11 for each of x car washes. It needs at least \$36. How many car washes are needed?

PART 2 • APPLY IT

1. **A team pays an \$18 design fee and \$6 for each of x custom jerseys. The total cost is \$54. How many jerseys does the team order?** The \$18 is a one-time design fee, and $6x$ is the cost of x jerseys at \$6 each. The total is \$54.
2. **A club has \$75 for an event. It spends \$12 on decorations and \$9 for each of x pizzas. How many pizzas can the club buy without spending more than \$75?** The club starts with a \$12 decoration cost and adds \$9 for each pizza. Its total spending must be no more than \$75.

CHALLENGE

A game store charges a \$13 membership fee and $\$1/2$ for each of x trading cards, for a total of \$29. How many trading cards are bought? Here, x is the number of trading cards, $1/2$ is the cost of each card, 13 is the membership fee, and 29 is the total cost.

Accept any realistic context that correctly matches every operation, number, and comparison symbol in the given equation or inequality. The variable must represent one quantity, and the student's question should ask for that quantity.