

Story Equation Studio

Turn equations and inequalities into real-world questions.

GRADE 6 • TEKS 6.9.C

6.9.C "write corresponding real-world problems given one-variable, one-step equations or inequalities."

NAME _____

DATE _____

MATCH THE MATH

An equation has an equal sign, so your story must describe an exact total or amount. An inequality compares amounts, so use clue words such as at least, no more than, fewer than, or more than, and make x stand for the unknown quantity.

WORKED EXAMPLE

Given $9x = 63$, write a real-world problem. Let x be the cost of one notebook.

1. $9x$ means 9 groups with the same cost.
2. 63 is the exact total cost.
3. Ask for the cost of one notebook.

Answer: Nine notebooks cost \$63 altogether. Each notebook costs the same amount. What is the cost, x , of one notebook?

PRACTICE 6 problems

- 1** Write a real-world problem for $x + 14 = 31$.
State what x represents.

ANSWER _____

- 2** Write a real-world problem for $x - 8 = 17$.
State what x represents.

ANSWER _____

- 3** Write a real-world problem for $6x = 42$.
State what x represents.

ANSWER _____

- 4** Write a real-world problem for $x / 5 = 7$.
State what x represents.

ANSWER _____

- 5** Write a real-world problem for $x + 12 \geq 25$.
Use the words at least. State what x represents.

ANSWER _____

- 6** Write a real-world problem for $4x < 28$. Use the words less than. State what x represents.

ANSWER _____

APPLY IT Show your work

- 1** For a school talent-show playlist, write a real-world problem for $18 + x = 30$. State what x represents.

WORK SPACE

ANSWER _____

- 2** A video club edits one video into 3 equal clips. Write a real-world problem for $x / 3 \leq 8$. Use the words no more than and state what x represents.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A student wrote this problem for $x - 5 \geq 16$: "A game costs x dollars. After using a \$5 coupon, the cost is at least \$16." Does the problem match the inequality? Explain why. Then write a different real-world problem that matches $x - 5 \geq 16$.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write a real-world problem for $x + 14 = 31$. State what x represents.	At the start of a sticker trade, Maya had x stickers. She received 14 more stickers and then had 31 stickers. How many stickers did she have at the start? x represents Maya's starting number of stickers.
2	Write a real-world problem for $x - 8 = 17$. State what x represents.	Diego had x dollars. He spent \$8 on a snack and had \$17 left. How much money did he have before buying the snack? x represents the number of dollars Diego had at first.
3	Write a real-world problem for $6x = 42$. State what x represents.	Six identical sketchbooks cost \$42 altogether. How much does each sketchbook cost? x represents the cost of one sketchbook in dollars.
4	Write a real-world problem for $x / 5 = 7$. State what x represents.	A total of x photos are split equally among 5 online albums. Each album has 7 photos. How many photos are there altogether? x represents the total number of photos.
5	Write a real-world problem for $x + 12 \geq 25$. Use the words at least. State what x represents.	Jordan has x dollars saved. After earning \$12, Jordan has at least \$25. How much money could Jordan have saved at first? x represents the number of dollars Jordan had saved at first.
6	Write a real-world problem for $4x < 28$. Use the words less than. State what x represents.	At an arcade, 4 identical game passes cost x dollars each. The total cost is less than \$28. What prices could one game pass have? x represents the cost of one game pass in dollars.

PART 2 • APPLY IT

- The talent-show playlist already has 18 songs. Students will add x songs so the playlist has exactly 30 songs. How many songs will students add? x represents the number of songs students add.** The starting playlist has 18 songs, and x songs are added. The exact final number of songs is 30.
- The video club has x minutes of video and edits it into 3 equal clips. Each clip can be no more than 8 minutes long. How many total minutes of video can the club have? x represents the total number of video minutes.** The total video length, x , is divided equally among 3 clips. Each clip is allowed to be 8 minutes or fewer.

CHALLENGE

Yes. The original cost is x , and using the coupon subtracts 5, leaving an amount that is at least 16. Another problem is: A player has x points and loses 5 points. The player still has at least 16 points. How many points could the player have had before losing points? x represents the player's starting number of points.

Accept any realistic context that preserves the operation, quantities, and comparison sign. For inequalities, accept equivalent clue phrases that keep the direction correct, such as at least for $\geq$ and less than for $<$.