LESSON MAKER PRO

Costs and Counts

Write expressions for changing amounts.

GRADE 6 · MT.6.EE.5

MT.6.EE.5 "Write expressions when solving problems in context and understand that a variable can represent an unknown number, or any number in a specified set."

NAME _____ DATE _____

THE BIG IDEA

Use x for an amount that can change or is not yet known. Write an expression to show how the amounts are connected, then replace x with a number to find a value.

WORKED EXAMPLE

A team orders x jerseys at $9 each and pays a $7 shipping fee. Write an expression for the total cost. Find the cost when x = 11.

1. The jerseys cost 9x dollars.
2. Add the shipping fee: 9x + 7.
3. Replace x with 11: 9(11) + 7 = 99 + 7 = 106.

Answer: 9x + 7 dollars; $106

PRACTICE 6 problems

1 A sticker pack holds 5 stickers. Write an expression for the number of stickers in x packs. How many stickers are in 6 packs?

ANSWER _____

2 You have 18 points in a game and earn x more. Write an expression for your total points. Find the total when x = 8.

ANSWER _____

3 You have 35 tokens and spend x tokens. Write an expression for the tokens left. Find the number left when x = 12.

ANSWER _____

4 A class splits 48 markers equally among x teams. Write an expression for the markers each team gets. Find the number when x = 6.

ANSWER _____

5 A game pass costs $10, plus $6 for each round. Write an expression for the cost of x rounds with a pass. Find the cost when x = 5.

ANSWER _____

6 Each poster uses 8 stickers. You have 50 stickers. Write an expression for the stickers left after making x posters. Find the number left when x = 5.

ANSWER _____

APPLY IT Show your work

1 At an arcade, each game costs 6 credits. You start with 50 credits. Let x be the number of games you play, where x is a whole number from 0 through 8. Write an expression for your credits left. How many credits remain after 5 games?

WORK SPACE

ANSWER _____

2 A music app charges $8 per month, plus $5 for each song you buy. Let x be the number of songs you buy this month, where x is a whole number from 0 through 6. Write an expression for this month's cost. What is the cost if you buy 6 songs?

WORK SPACE

ANSWER _____

CHALLENGE One step up

At a fair, entry costs $5 and each ride costs $6. You have $35. Let x be the number of rides you take, where x is a whole number from 0 through 5. Write an expression for your money left after entry and rides. Which values of x leave you at least $18?

WORK SPACE AND ANSWER

Costs and Counts

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A sticker pack holds 5 stickers. Write an expression for the number of stickers in x packs. How many stickers are in 6 packs?	**5x stickers; 30 stickers**
2	You have 18 points in a game and earn x more. Write an expression for your total points. Find the total when x = 8.	**18 + x points; 26 points**
3	You have 35 tokens and spend x tokens. Write an expression for the tokens left. Find the number left when x = 12.	**35 - x tokens; 23 tokens**
4	A class splits 48 markers equally among x teams. Write an expression for the markers each team gets. Find the number when x = 6.	**48/x markers; 8 markers**
5	A game pass costs $10, plus $6 for each round. Write an expression for the cost of x rounds with a pass. Find the cost when x = 5.	**10 + 6x dollars; $40**
6	Each poster uses 8 stickers. You have 50 stickers. Write an expression for the stickers left after making x posters. Find the number left when x = 5.	**50 - 8x stickers; 10 stickers**

PART 2 · APPLY IT

1. **50 - 6x credits; 20 credits** Subtract 6 credits for each game from 50. When x = 5, 50 - 6(5) = 20.
2. **8 + 5x dollars; $38** Add $5 per song to the $8 monthly charge. When x = 6, 8 + 5(6) = 38.

CHALLENGE

35 - 5 - 6x, or 30 - 6x, dollars; x = 0, 1, or 2

Accept equivalent expressions with the correct units. For the challenge, students must include every whole-number value in the stated set that leaves at least $18.