LESSON MAKER PRO

Equation Story Builder

Turn words into multistep equations.

GRADE 8 · 8.PFA.4.c

8.PFA.4.c "Write a multistep linear equation in one variable to represent a verbal situation, including those in context."

NAME _____ DATE _____

BUILD THE EQUATION

Choose x for the unknown amount. Translate each part of the situation into math, then use an equals sign when two amounts are the same or when a total is given.

WORKED EXAMPLE

A fitness center charges a $13 joining fee and $5 for each class. The total cost is $33. Write an equation for the number of classes, x.

1. Let x = the number of classes.
2. The class cost is 5x.
3. Add the joining fee: 5x + 13.
4. Set the total equal to 33: 5x + 13 = 33.

Answer: 5x + 13 = 33

PRACTICE 6 problems

1 Four times a number, increased by 3, is 19. Write an equation.

ANSWER _____

2 Six times the difference between a number and 4 is 48. Write an equation.

ANSWER _____

3 A number divided by 3, then increased by 7, is 11. Write an equation.

ANSWER _____

4 Eight less than nine times a number is 46. Write an equation.

ANSWER _____

5 The sum of a number and 8, divided by 4, is 6. Write an equation.

ANSWER _____

6 Three times the difference between a number and 7, increased by 6, is 18. Write an equation.

ANSWER _____

APPLY IT Show your work

1 A gaming club charges $7 to join an event and $4 for each game token pack. Jordan spends $31 altogether. Write an equation for the number of token packs, x.

WORK SPACE

ANSWER _____

2 A music app costs $6 each month and has a one-time $8 setup fee. The total after x months is $38. Write an equation.

WORK SPACE

ANSWER _____

CHALLENGE One step up

At a clothing website, four hoodies cost x dollars each. A $6 discount applies to each hoodie, and $7 shipping is added. This total equals the cost of three regular-price hoodies at x dollars each plus $16 shipping. Write an equation for the hoodie price, x.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Story Builder

GRADE 8 · 8.PFA.4.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Four times a number, increased by 3, is 19. Write an equation.	**4x + 3 = 19**
2	Six times the difference between a number and 4 is 48. Write an equation.	**6(x - 4) = 48**
3	A number divided by 3, then increased by 7, is 11. Write an equation.	**x/3 + 7 = 11**
4	Eight less than nine times a number is 46. Write an equation.	**9x - 8 = 46**
5	The sum of a number and 8, divided by 4, is 6. Write an equation.	**(x + 8)/4 = 6**
6	Three times the difference between a number and 7, increased by 6, is 18. Write an equation.	**3(x - 7) + 6 = 18**

PART 2 · APPLY IT

1. **4x + 7 = 31** Let x represent the number of token packs. The packs cost 4x dollars, and the $7 joining charge makes the total 31 dollars.
2. **6x + 8 = 38** Let x represent the number of months. Multiply 6 by x for the monthly cost, then add the one-time setup fee.

CHALLENGE

4(x - 6) + 7 = 3x + 16

Accept equivalent equations with terms reordered or parentheses correctly distributed. The variable may be defined with a different phrase as long as x represents the unknown quantity described.