LESSON MAKER PRO

Solve the Situation

Write equations that answer real questions.

GRADE 7 · 7A.AF.C.21.b

7A.AF.C.21.b "Represent and solve real-world and mathematical problems with equations and interpret each solution in the context of the problem."

NAME _____ DATE _____

FROM WORDS TO EQUATIONS

Let x stand for the amount you need to find. Write an equation that matches the situation, then use opposite operations to solve it. Check your answer and tell what x means in the situation.

WORKED EXAMPLE

A music club charges a $9 sign-up fee and $8 per lesson. The total cost is $57. How many lessons does that pay for?

1. Let x be the number of lessons. Write 8x + 9 = 57.
2. Subtract 9 from both sides: 8x = 48.
3. Divide both sides by 8: x = 6.
4. Check: 8(6) + 9 = 57.

Answer: The total pays for 6 lessons.

PRACTICE 6 problems

1 A streaming plan charges $4 per movie plus a $3 account fee. Your bill is $23. Write an equation, solve it, and tell what x means.

ANSWER _____

2 A game gives you 11 bonus points and 2 points per correct answer. You have 25 points. Write an equation, solve it, and tell what x means.

ANSWER _____

3 You buy x identical notebooks at $12 each and use a $14 coupon. You pay $22. Write an equation, solve it, and tell what x means.

ANSWER _____

4 Four friends each pay a $3 entry fee plus x dollars for snacks. Together they pay $40. Write an equation, solve it, and tell what x means.

ANSWER _____

5 A class has 23 stickers. After giving x stickers to each of 4 teams, 3 stickers remain. Write an equation, solve it, and tell what x means.

ANSWER _____

6 You have $37. You buy 2 matching wristbands at $x each and have $15 left. Write an equation, solve it, and tell what x means.

ANSWER _____

APPLY IT Show your work

1 Your school club is ordering custom water bottles. The company charges a one-time $21 setup fee plus $4 per bottle. The club has $73 and spends all of it. Write an equation, solve it, and explain what x means.

WORK SPACE

ANSWER _____

2 A game tournament charges a $17 entry fee and pays $13 for each round you win. After paying the entry fee, your net earnings are $113. Write an equation, solve it, and explain what x means.

WORK SPACE

ANSWER _____

CHALLENGE One step up

At a school fair, Plan A costs $12 to enter plus $3 per game. Plan B costs $5 to enter plus $4 per game. Write one equation to find when the plans cost the same. Solve it and explain what your answer means.

WORK SPACE AND ANSWER

ANSWER KEY

Solve the Situation

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A streaming plan charges $4 per movie plus a $3 account fee. Your bill is $23. Write an equation, solve it, and tell what x means.	**4x + 3 = 23; x = 5 movies.**
2	A game gives you 11 bonus points and 2 points per correct answer. You have 25 points. Write an equation, solve it, and tell what x means.	**2x + 11 = 25; x = 7 correct answers.**
3	You buy x identical notebooks at $12 each and use a $14 coupon. You pay $22. Write an equation, solve it, and tell what x means.	**12x - 14 = 22; x = 3 notebooks.**
4	Four friends each pay a $3 entry fee plus x dollars for snacks. Together they pay $40. Write an equation, solve it, and tell what x means.	**4(x + 3) = 40; x = $7 for each friend's snacks.**
5	A class has 23 stickers. After giving x stickers to each of 4 teams, 3 stickers remain. Write an equation, solve it, and tell what x means.	**23 - 4x = 3; x = 5 stickers per team.**
6	You have $37. You buy 2 matching wristbands at $x each and have $15 left. Write an equation, solve it, and tell what x means.	**37 - 2x = 15; x = $11 per wristband.**

PART 2 · APPLY IT

1. **21 + 4x = 73; x = 13 bottles.** Subtract 21 from 73 to get 52, then divide by 4. The club can order 13 bottles.
2. **13x - 17 = 113; x = 10 rounds won.** Add 17 to 113 to get 130, then divide by 13. The player won 10 rounds.

CHALLENGE

12 + 3x = 5 + 4x; x = 7 games. At 7 games, both plans cost $33.

Accept equivalent equations that correctly represent each situation. Students should identify the unit or meaning of x, not give only a number.