LESSON MAKER PRO

Equation Story Studio

Turn each equation into a situation that makes sense.

GRADE 8 · 8.PFA.4.d

8.PFA.4.d "Create a verbal situation in context given a multistep linear equation in one variable."

NAME _____ DATE _____

BUILD THE STORY

A coefficient can show equal groups, parentheses can show what happens inside each group, and a number outside parentheses can be a one-time fee or adjustment. Define x, read the equation from the inside outward, and make every operation match a quantity in your situation.

WORKED EXAMPLE

Create a situation for $5(x - 3) + 4 = 29$.

1. Let x be the regular cost of one notebook cover.
2. 5(x - 3) means five covers, each costing x dollars after a $3 discount.
3. + 4 means add one $4 delivery fee.
4. = 29 means the final cost is $29.

Answer: A club buys 5 notebook covers that each cost x dollars before a $3 discount. After the discounts, the club adds a $4 delivery fee and pays $29 total.

PRACTICE 6 problems

1 Create a situation for 2x + 7 = 25.

ANSWER _____

2 Create a situation for 6(x - 1) = 42.

ANSWER _____

3 Create a situation for (x + 8) / 2 = 11.

ANSWER _____

4 Create a situation for 7 + 2x = 31.

ANSWER _____

5 Create a situation for 8x - 6 = 50.

ANSWER _____

6 Create a situation for 7(x + 2) - 1 = 48.

ANSWER _____

APPLY IT Show your work

1 A gaming club is planning a headset order. Create a situation for $9(x - 2) + 10 = 64$.

WORK SPACE

ANSWER _____

2 Six friends are planning to attend a concert. Create a situation for $(x + 18) / 6 = 14$.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Create a situation for $2(6x - 7) + 8 = 66$. Then explain what $6x - 7$, the factor 2, and $+ 8$ mean in your situation.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Story Studio

GRADE 8 · 8.PFA.4.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Create a situation for 2x + 7 = 25.	**A streaming service charges a $7 joining fee and $2 for each of x movie rentals. The total cost is $25.**
2	Create a situation for 6(x - 1) = 42.	**Six friends each buy a game pass that costs x dollars and use a $1 coupon. Together, they pay $42.**
3	Create a situation for (x + 8) / 2 = 11.	**Two students split the cost of an item priced at x dollars and an $8 fee equally. Each student pays $11.**
4	Create a situation for 7 + 2x = 31.	**A team pays a $7 registration fee and $2 for each of x wristbands. The total cost is $31.**
5	Create a situation for 8x - 6 = 50.	**A shopper buys x stickers for $8 each and uses a $6 coupon. The final cost is $50.**
6	Create a situation for 7(x + 2) - 1 = 48.	**Seven players each have x points and earn 2 bonus points. After a 1-point team penalty, their combined score is 48 points.**

PART 2 · APPLY IT

1. **A gaming club orders 9 headsets that each cost x dollars. A $2 discount is taken off each headset, then a $10 shipping charge is added, for a total of $64.** 9(x - 2) represents 9 discounted headsets. The + 10 is one shipping charge, and 64 is the final cost.
2. **Six friends split the cost of a concert package priced at x dollars and an $18 booking fee equally. Each friend pays $14.** x + 18 is the full cost before it is shared. Dividing by 6 gives each friend's equal payment.

CHALLENGE

An art club buys 2 supply kits. Each kit has 6 paint sets that cost x dollars each, and the club uses a $7 coupon on each kit. An $8 delivery charge is added, making the total $66. In this situation, 6x - 7 is the cost of one kit after its coupon, 2 represents the two kits, and + 8 represents the delivery charge.

Accept any realistic context that preserves the equation's operations, grouping, and quantities. Students may use different objects or money units if x is clearly defined and each term is represented correctly.