LESSON MAKER PRO

Equation Scene Solver

Build and solve multi-step linear equations from diagrams and real situations.

HIGH SCHOOL · MA.912.AR.2.1

MA.912.AR.2.1 "Given a real-world context, write and solve one-variable multi-step linear equations."

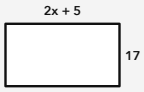
NAME _____ DATE _____

TURN CONTEXT INTO AN EQUATION

For a perimeter situation, add the expressions for all sides and set the sum equal to the stated perimeter. Distribute when needed, combine like terms, and use inverse operations to isolate x.

WORKED EXAMPLE

The rectangle has a perimeter of 68 units. Write and solve an equation for x.

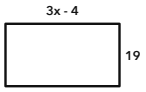


1. 2(2x + 5) + 2(17) = 68
2. 4x + 44 = 68
3. 4x = 24
4. x = 6

Answer: x = 6

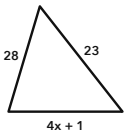
PRACTICE 6 problems

1 The rectangle has a perimeter of 78 units. Write and solve an equation for x.



ANSWER _____

2 The triangle has a perimeter of 88 units. Write and solve an equation for x.



ANSWER _____

3 Solve: 7(x - 3) + 11 = 39

ANSWER _____

4 Solve: (7x + 8)/3 - 6 = 13

ANSWER _____

5 Solve: 3(x + 6) - 4x = 25

ANSWER _____

6 Solve: 13 - 4(x - 7) = 5x + 1

ANSWER _____

APPLY IT Show your work

1 An audio app charges an $11 monthly membership and $4 for each premium track. You apply a $9 credit, and your final bill is $34. Write and solve an equation to find x, the number of premium tracks.

WORK SPACE

ANSWER _____

2 The table shows charges for a club hoodie order. Write and solve an equation to find x, the number of hoodies ordered.

CLUB HOODIE ORDER

Charge	Amount
Base design fee	$14
Each hoodie	$6
Coupon	-$8
Final cost	$42

ANSWER _____

CHALLENGE One step up

Solve: 6(4x - 3) + 11 = 3(x + 8) + 53. After you distribute and combine like terms, state the first operation you use to isolate x.

WORK SPACE AND ANSWER

ANSWER KEY

Equation Scene Solver

HIGH SCHOOL · MA.912.AR.2.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The rectangle has a perimeter of 78 units. Write and solve an equation for x.	**x = 8**
2	The triangle has a perimeter of 88 units. Write and solve an equation for x.	**x = 9**
3	Solve: 7(x - 3) + 11 = 39	**x = 7**
4	Solve: (7x + 8)/3 - 6 = 13	**x = 7**
5	Solve: 3(x + 6) - 4x = 25	**x = -7**
6	Solve: 13 - 4(x - 7) = 5x + 1	**x = 40/9**

PART 2 · APPLY IT

1. **x = 8 premium tracks** Use 11 + 4x - 9 = 34. Simplifying gives 4x = 32, so x = 8.
2. **x = 6 hoodies** Use 14 + 6x - 8 = 42. Simplifying gives 6x = 36, so x = 6.

CHALLENGE

x = 4; subtract 3x from both sides.

Accept equivalent equations and correct algebraic work. For the last practice problem, accept x = 40/9 or x = 4 4/9.