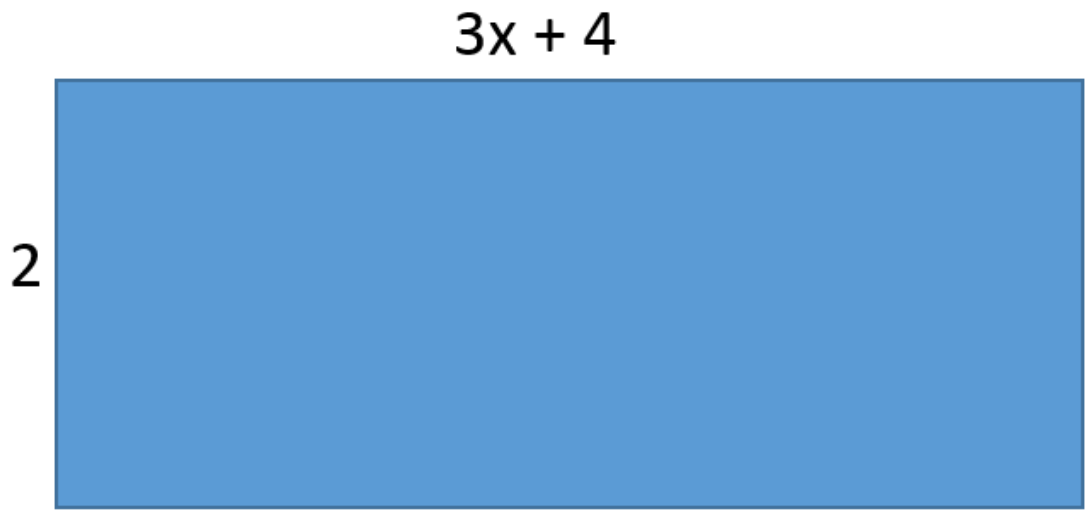
Opening:

The area of the rectangle is 38, what is the length?



Area = l(w)

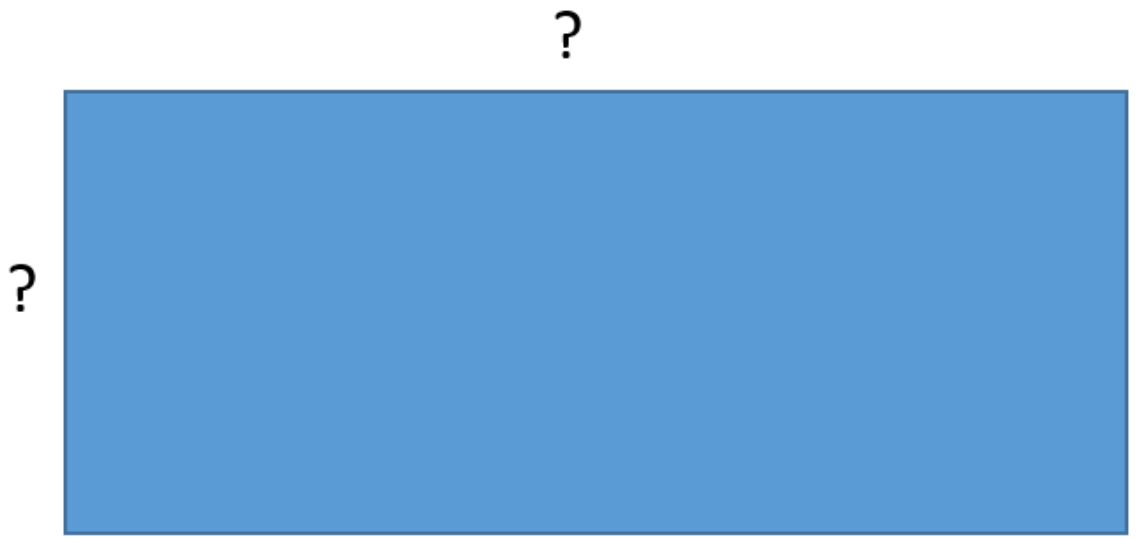
$38 = 2(3x + 4)$

$38 = 6x + 8$
$-8 \qquad -8$
$30 = 6x$
$\frac{30}{6} = \frac{6x}{6}$
$5 = x$

CHECK:
$38 = 2(3(5) + 4)$
$38 = 2(15 + 4)$
$38 = 2(19)$

$38 = 38$ √

The Perimeter of the rectangle is 102, the length is 6 more than twice the width. What are the length and width of the rectangle?



$2w + 6 + w + 2w + 6 + w = 102$

$6w + 12 = 102$

$-12 \quad -12$

$$\frac{6w}{6} = \frac{90}{6}$$

$$w = 15$$

CHECK:

$2(15) + 6 + 15 + 2(15) + 6 + 15 = 102$

$102 = 102\surd$

Solving Linear Equations Unit Test Review Game

MGSE8.EE.7 & 8: Solving linear equations with one variable

Working as a team, showing work, being respectful!

$$6(x - 4) = 6$$

Solve for x

$6(x - 4) = 6$

$X = 5$

Explanation

$6(x - 4) = 6$

- Distribute 6 to (x-4)
- 6x -24 = 6
- Add 24 to both sides
- 6x = 30
- Divide both sides by 6
- X = 5
- Check your answer (5-4) =1 6x1 = 6 Correct!

$$-4x + 2 = 2x - 10$$

- Solve for x

$$-4x + 2 = 2x - 10$$

$$2 = x$$

Explanation

$-4x + 2 = 2x - 10$

- Add $4x$ to both sides
- $2 = 6x - 10$
- Add 10 to both sides
- $12 = 6x$
- Divide both sides by 6
- $2 = x$
- Check your work $-4(2) + 2 = 2(2) - 10$ $-6 = -6$ Correct!

$$14 = 3/4x - 10$$

Solve for x

14 = 3/4x -10

- X = 32

Explanation

14 = 3/4x -10

Add 10 to both sides

24 = 3/4x

Multiply both sides by the reciprocal of ¾ which is 4/3

4/3 (24) = x

Simplify/Reduce 24 divided by 3 = 8

4 x 8 = 32

32 = x

Check your work ¾ of 32 is 24 24 – 10 =14 Correct!

The length of a rectangle is 5 more than the width. The perimeter of the rectangle is 40.

- Find the length and the width

The length of a rectangle is 5 more than the width. The perimeter of the rectangle is 38.

- Width = 7
- Length = 12

Explanation

The length of a rectangle is 5 more than the width. The perimeter of the rectangle is 38.

- Draw a rectangle and label the width and length
- Set up an equation
- 2(w) + 2(w+5) = 38
- Distribute
- 2w + 2w +10 =38
- Combine like terms 4w + 10 = 38
- Subtract 10 from both sides 4w = 28
- Divide both sides by 4 w = 7
- Check your work 7 + 7 + 12 + 12 = 38 Correct!

Given the equation $4(x + 2) = 2x + 6 + 6x + 2$

- Is this one solution, no solution, or Infinite Many Solutions (IMS)

Given the equation $4(x + 2) = 2x + 6 + 6x + 2$

- One solution

Explanation

Given the equation $4(x + 2) = 2x + 6 + 6x + 2$

- Distribute the four $4x + 8 = 2x + 6 + 6x + 2$
- Combine like terms $4x + 8 = 8x + 8$
- Subtract $4x$ from both sides $8 = 4x + 8$
- Subtract 8 from both sides $0 = 4x$

The area of the rectangle is 60 square units.
Find the value of x

The area of the rectangle is 60 square units.
Find the value of x

X = 4

Explanation

The area of the rectangle is 60 square units.

Find the value of x

Set up the correct equation $6(2x + 2) = 60$

Distribute the 6 $12x + 12 = 60$

Subtract 12 from both sides $12x = 48$

Divide both sides by 12 $x = 4$

$$-3(x - 2) - 3x = 2(x-5) + x - 2$$

- Solve for X

$$-3(x - 2) - 3x = 2(x-5) + x - 2$$

$$2 = x$$

$$-3(x - 2) - 3x = 2(x-5) + x - 2$$

Distribute on both sides $-3x + 6 - 3x = 2x - 10 + x - 2$

Combine like terms $-6x + 6 = 3x - 12$

Add 6x to both sides $6 = 9x - 12$

Add 12 to both sides $18 = 9x$

Divide both sides by 92 = x

Check your work $-3(2) + 6 - 3(2) = -6$ AND $2(2) - 10 + 2 - 2 = -6$ $-6 = -6$ Correct

$$4(x-3) = 2x + 2x - 10$$

- One solution, No solution, or Infinitely Many Solutions

$$4(x-3) = 2x + 2x - 10$$

- No solution

$$4(x-3) = 2x + 2x - 10$$

- Distribute 4 $4x - 12 = 2x + 2x - 10$
- Combine like terms $4x - 12 = 4x - 10$
- $-12 = -10$ Huh?
- No solution

$$2(x + 12) = 3x - 15$$

- One solution, No solution, or Infinitely Many Solutions

$$2(x + 12) = 3x - 15$$

- One Solution

$$2(x + 12) = 3x - 15$$

- Distribute
- $2x + 24 = 3x - 15$
- Bring the 2x over $24 = x - 15$
- Add 15 to both sides $39 = x$
- Check your work $2(39 + 12) = 102$ $3(39) - 15 = 102$
- One Solution