


MasterMath

Algebra

# Solving Equations with Variables on Both Sides



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Solving Equations with Variables on Both Sides

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The sum of six, plus three times a number (x) equals five subtracted from four times the number. What is the number?

**CUCC** Translate to Math

$$-5 + 6 = + 3x + 4x$$

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$$+ 6 + 3x = - 5 + 4x$$

$$6 + 3x - 3x = -5 + 4x - 3x$$

$$6 = -5 + 4x - 3x$$

$$6 + 5 = + 4x - 3x$$

$$11 = x$$

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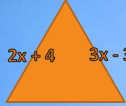
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Solving Equations with Variables on Both Sides

YOU TRY IT Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.



$2x + 4$   $3x - 3$

The length of each side of this Equilateral Triangle is the same. The length of two sides of the triangle are given in different forms. What is the perimeter of the triangle?

You try it!

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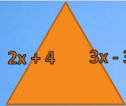
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YOU TRY IT Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.



$2x + 4$   $3x - 3$

$$2x + 4 = 3x - 3$$

$$7 = x$$

$$4 + 3 = 3x - 2x$$

The length of each side of this Equilateral Triangle is the same. The length of two sides of the triangle are given in different forms. What is the perimeter of the triangle?

You try it!

$$3(2 \cdot 7 + 4)$$

$$= 3(18) = 54$$


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**Solving Equations with Variables on Both Sides**

**YOU TRY IT** Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

Four times a number, "x", plus two equals eight minus two times the number. What is the number?

You try it!

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**Solving Equations with Variables on Both Sides**

**YOU TRY IT** Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

$$4x + 2 = 8 - 2x$$

Four times a number, "x", plus two equals eight minus two times the number. What is the number?

You try it!

$$4x + 2x = 8 - 2$$
$$6x = 6 \quad x = 1$$

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**Solving Equations with Variables on Both Sides**

**YOU TRY IT** Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

The cost of video downloads at Vera's Videos is \$5 each. However, if you buy a \$4 Membership, the cost is only \$3 for each video. How many videos must a member and a non-member download to make their cost per video the same?

You try it!

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**$\$5x = \$4 + \$3x$**

**$\$5x - \$3x = \$4$**

The cost of video downloads at Vera's Videos is \$5 each. However, if you buy a \$4 Membership, the cost is only \$3 for each video. How many videos must a member and a non-member download to make their cost per video the same? You try it!

**$\$2x = \$4$**   
 **$x = 2$**

**$\frac{\$2x}{\$2} = \frac{\$4}{\$2}$**

YMK TRY IT Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

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