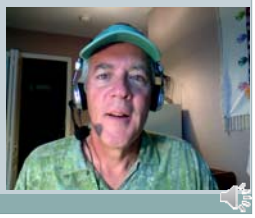
MasterMath

Algebra

SOLVING EQUATIONS WITH VARIABLES ON BOTH SIDES



SOLVING EQUATIONS WITH VARIABLES ON BOTH

$$5 - 2x = 3x$$

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

$$5 = 5x$$

$$1 = x$$

SOLVING EQUATIONS WITH VARIABLES ON BOTH

Equations with Variables on Both Sides

How many miles per month (M) would you have to travel to have the same monthly cost for the electric car and the gas car?

Gas Car: $265 + ($.10) M

Electric Car: $620 + ($.025) M

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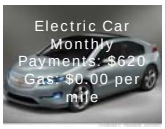

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Gas Car: $265 + ($.10) M = Electric Car: $620 + ($.025) M

$265 + ($.10) M = $620 + ($.025) M
265 + .1M = 620 + .025M
265 - 265 + .1M = 620 – 265 + .025M
.1M = 355 + .025M
.1M - .025M = 355 + .025M - .025M
.075M = 355
.075M ÷ .075 = 355 ÷ .075
M = 4,733.33 miles

SOLVING EQUATIONS WITH VARIABLES ON BO

You try it!

$2z + 16 = 6z$

SOLVING EQUATIONS WITH VARIABLES ON BO

You try it!

$2z + 16 = 6z$
$2z – 2z + 16 = 6z – 2z$
$16 = 4z$
$16 ÷ 4 = 4z ÷ 4$
$4 = z$

SOLVING EQUATIONS WITH VARIABLES ON BO

You try it!

$3x + 5 = 2x$

SOLVING EQUATIONS WITH VARIABLES ON BOTH

You try it!

$3x + 5 = 2x$

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

SOLVING EQUATIONS WITH VARIABLES ON BOTH

You try it!

$2x - 5 = 3x + 5$

SOLVING EQUATIONS WITH VARIABLES ON BOTH

You try it!

$2x - 5 = 3x + 5$
$2x - 5 + 5 = 3x + 5 + 5$
$2x = 3x + 10$
$2x - 3x = 3x + 10 - 3x$
$-x = 10$
$x = -10$

You try it!

The value of the perimeter of this rectangle (in feet) equals the value of the area (in square feet). What's the value of x?

Perimeter = 2l + 2w
Area = l * w

You try it!

The value of the perimeter of this rectangle (in feet) equals the value of the area (in square feet). What's the value of x?

Perimeter = 2l + 2w
Area = l * w

Set Perimeter = Area, and solve for x:

$2l + 2w = lw$

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

$2x - 2x + 6 = 3x - 2x$

$6 = x$