



**THIRD SPACE
LEARNING**

Math Equations

Algebra

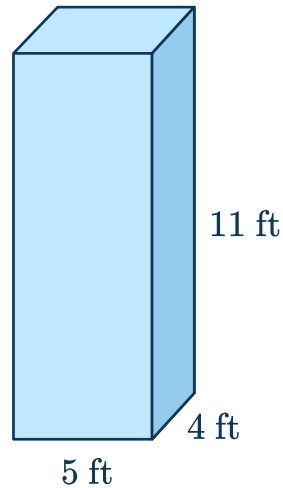
Grades 6 to 8

Skill Questions

Name:

Date:

- 1 Use the formula for volume of a prism, $V = B \times h$, where B represents the area of the base and h represents the height of the prism.



Answer

- 2 Evaluate the expression below when $x = -1$, $y = 3$, $z = -2$
- $$2xy - 3z$$

Answer

- 3 Solve the equation for x .

$$\frac{3}{4}x = 9$$

Answer

Math Equations Worksheet | Grades 6 to 8

- 4 Solve the equation for z .

$$6 - z = 17$$

Answer

- 5 Solve the inequality.

$$8x \geq -16$$

Answer

- 6 Solve the equation for x .

$$\frac{2x - 4}{3} = -4$$

Answer

- 7 Solve the inequality for x .

$$-3(x + 4) < 6$$

Answer

Math Equations Worksheet | Grades 6 to 8

- 8 Solve the equation for x .

$$-2(3x + 5) = 16 - 3x$$

Answer

- 9 Solve the equation for a .

$$-\frac{1}{2}(2a + 6) - 1 = -2(4a - 6)$$

Answer

- 10 Solve the equation for s .

$$3s - 4(s + 10) = -2s - 9$$

Answer

Applied Questions

- 11 Ty solves the equation using the following steps. Identify the step he made an error in and make the corrections.

$$-3(x - 7) = 21$$

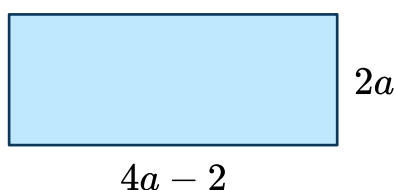
Step 1: $-3x + 21 = 21$

Step 2: $-3x = 0$

Step 3: *no solution*

Answer

- 12 a) The perimeter of the rectangle is 32 inches.
Write an equation representing the perimeter of the rectangle



Answer

- b) Find the dimensions of the rectangle.

Answer

- 13** Create an equation that has a solution of 15.

Answer

-
- 14** Four times a number minus seven is twenty-one.

a) Write an equation representing this situation.

Answer

b) Find the number.

Answer

-
- 15** Two times the quantity of a number minus 2 is three times that number.

a) Write an equation representing this situation.

Answer

b) Find the number.

Answer

Answers

Question number	Question	Answers	Standard
1	Use the formula for volume of a prism, $V = B \times h$, where B represents the area of the base and h represents the height of the prism.	$V = 220 \text{ ft}^3$ Area of base (B) = 20 height (h) = 11 Substitute values into the formula. $V = (20) \times 11$ $V = 220 \text{ ft}^2$	6.EE.A.2c
2	Evaluate the expression below when $x = -1, y = 3, z = -2$ $2xy - 3z$	0 Substitute the values into the expression. $2xy - 3z$ $2(-1)(3) - 3(-2)$ $-6 + 6 = 0$	6.EE.A.2c
3	Solve the equation for x . $\frac{3}{4}x = 9$	$x = 12$ $\frac{3}{4}x = 9$ $\frac{4}{3} \times \frac{3}{4}x = 9 \times \frac{4}{3}$ $x = \frac{36}{3} = 12$	6.EE.B.5
4	Solve the equation for z . $6 - z = 17$	$z = -11$ $6 - z = 17$ $-6 + 6 - z = 17 - 6$ $-z = 11$ $z = -11$	6.EE.B.5

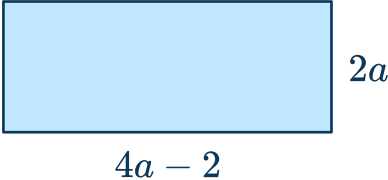
Math Equations Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
5	Solve the inequality. $8x \geq -16$	$x \geq -2$	6.EE.B.5
6	Solve the equation for x . $\frac{2x - 4}{3} = -4$	$x = -4$ $\frac{2x - 4}{3} = -4$ $3 \times \frac{2x - 4}{3} = -4 \times 3$ $2x - 4 = -12$ $2x = -8$ $x = -4$	7.EE.A.1
7	Solve the inequality for x . $-3(x + 4) < 6$	$x > -6$ $-3(x + 4) < 6$ $-3x - 12 < 6$ $-3x < 18$ $x > -6$	7.EE.A.1
8	Solve the equation for x $-2(3x + 5) = 16 - 3x$	$x = -8\frac{2}{3}$ $-2(3x + 5) = 16 - 3x$ $-6x - 10 = 16 - 3x$ $-6x + 3x - 10 = 16 - 3x + 3x$ $-3x - 10 = 16$ $-3x - 10 + 10 = 16 + 10$ $-3x = 26$ $x = -8\frac{2}{3}$	7.EE.A.1 8.EE.C.7b

Math Equations Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
9	Solve the equation for a . $-\frac{1}{2}(2a + 6) - 1 = -2(4a - 6)$	$a = 2\frac{2}{7}$ $-\frac{1}{2}(2a + 6) - 1 = -2(4a - 6)$ $-a - 3 - 1 = -8a + 12$ $-a - 4 = -8a + 12$ $7a = 16$ $a = \frac{16}{7} = 2\frac{2}{7}$	7.EE.A.1 8.EE.C.7b
10	Solve the equation for s . $3s - 4(s + 10) = -2s - 9$	$s = 31$ $3s - 4(s + 10) = -2s - 9$ $3s - 4s - 40 = -2s - 9$ $-s - 40 = -2s - 9$ $s = 31$	7.EE.A.1 8.EE.C.7b
11	Ty solves the equation using the following steps. Identify the step he made an error in and make the corrections. $-3(x - 7) = 21$ Step 1: $-3x + 21 = 21$ Step 2: $-3x = 0$ Step 3: <i>no solution</i>	Step 3 is the error. $x = 0$ because, $-3x = 0$ means that x must be equal to 0. Using inverse operations proves this. $\frac{-3x}{-3} = \frac{0}{-3}$ $x = 0$	7.EE.A.1

Math Equations Worksheet | Grades 6 to 8 | Answers




Question number	Question	Answers	Standard
12	<p>a) The perimeter of the rectangle is 32 inches. Write an equation representing the perimeter of the rectangle.</p>  <p>b) Find the dimensions of the rectangle.</p>	<p>a)</p> $2a + 2a + 4a - 2 + 4a - 2 = 32$ $12a - 4 = 32$ <p>b) Solve the equation for a to find the dimensions.</p> $12a - 4 = 32$ $12a = 36$ $a = 3$ <p>The dimensions of the rectangle are: $4(3) - 2 = 10$ $2(3) = 6$ 10 inches by 6 inches</p>	7.EE.A.1
13	Create an equation that has a solution of 15.	<p>Answers vary.</p> <p>Example answers:</p> $2x = 30$ $x = 15$ <p>OR</p> $-(x - 40) = 25$ $-x + 40 = 25$ $-x = -15$ $x = 15$	6.EE.B.5 7.EE.A.1 8.EE.C.7 HSA-REI.B.3
14	<p>Four times a number minus seven is twenty-one.</p> <p>a) Write an equation representing this situation.</p> <p>b) Find the number.</p>	<p>a) $4x - 7 = 21$</p> <p>b) $4x = 28$ $x = 7$</p>	7.EE.A.1 8.EE.C.7
15	<p>Two times the quantity of a number minus 2 is three times that number.</p> <p>a) Write an equation representing this situation.</p> <p>b) Find the number.</p>	<p>a) $2(x - 2) = 3x$</p> <p>b) $2x - 4 = 3x$ $-4 = x$</p>	8.EE.C.7b

Do you have a group of students who need a boost in math?

Each student could receive a personalized lesson every week from our specialist one-on-one math tutors.

- ✓ Differentiated instruction for each student
- ✓ Aligned to your state's standard
- ✓ Scaffolded learning to close gaps

Speak to us

-  thirdspacelearning.com/us/
-  +1 929-298-4593
-  hello@thirdspacelearning.com



THIRD SPACE
LEARNING