THIRD SPACE LEARNING

Rearranging Equations Worksheet

Algebra

Grades 9 to 12

Skill Questions

Name: .....

Date: .....

1 Solve the equation for y.

$$3y = 6x - 3$$

Answer

2 Solve the equation for y.

$$x = 3(y - 3)$$

Answer

3 Solve the equation for x.

$$-4x + 5c = -4$$

Answer

4 Solve the equation for g.

$$z = 8g - 8 - 2h$$

Answer

5 Solve the equation for a.

$$h + ga = 2a$$

Answer

6 Rearrange the equation by solving it for c.

$$y = \frac{2c + 10}{a}$$

Answer

7 Rearrange the equation by solving it for a.

$$4 = \frac{-a + 5}{ka}$$

Answer

8 Rearrange the equation by solving it for x.

$$16 = x^2 + 5y$$

Answer

9 Rearrange the equation by solving it for y.

$$(y - 7)^2 = x + 4$$

Answer

10 Rearrange the equation by solving it for z.

$$z^3 - 8 = a - 2$$

Answer

Applied Questions

11 The area of the triangle is, $A = \frac{1}{2}\ bh$ where b represents the base length of the triangle and h represents the height of the triangle. Rewrite the formula by solving it for h and then find the length of the height if the area is 42 in^2 and the base is 6 in.

Answer

12 Carolena deposits $4000 in an account that earns simple interest. After 9 months, the account earns $75. The formula for simple interest is, $I = Prt$, I is the interest, P is the principle amount, r is the rate and t is the time in years. Solve the formula for the rate, r, and then find the rate. *(Hint: be sure to make the rate a percent)*

Answer

13 The formula for Celcius is, $C = \frac{5}{9}\ (F - 32)$, where C is celsius and F is Fahrenheit. Convert the formula to Fahrenheit by solving it for F.
If the surface temperature of Mercury is 428° C, use the formula for Fahrenheit to convert the temperature from Celcius to Fahrenheit.

Answer

14 Newton's Law of Gravitation is given by the formula, $F = G\left(\frac{m_1 m_2}{d^2}\right)$ where F is the force between two objects, $m_1 = mass\ of\ object\ 1$ and $m_2 = mass\ of\ object\ 2$ 2, and d is the distance between the objects. Rearrange the formula by solving it for m_2.

Answer

15 The volume, V, of a cylinder is given by the formula $V = \pi r^2 h$, where r is the radius of the base and h is the height of the cylinder. Rearrange the formula to make h the subject of the formula.

Answer

Answers

Question number	Question	Answers	Standard
1	Solve the equation for y $3y = 6x - 3$	$y = 2x - 1$	HSA.CED.A.4
2	Solve the equation for y. $x = 3(y - 3)$	$y = \frac{x + 9}{3}$ OR $y = \frac{x}{3} + 3$ OR $y = \frac{1}{3}x + 3$	HSA.CED.A.4
3	Solve the equation for x $-4x + 5c = -4$	$x = \frac{4 + 5c}{4}$ OR $x = 1 + \frac{5c}{4}$ OR $x = 1 + \frac{5}{4}c$	HSA.CED.A.4
4	Solve the equation for g. $z = 8g - 8 - 2h$	$g = \frac{1 + h + 4}{4}$ OR $g = \frac{1}{4} + \frac{h}{4} + 1$	HSA.CED.A.4
5	Solve the equation for a. $h + ga = 2a$	$a = \frac{h}{2 - g}$	HSA.CED.A.4
6	Rearrange the equation by solving it for c. $y = \frac{2c + 10}{a}$	$c = \frac{ya - 10}{2}$ OR $c = \frac{ya}{2} - 5$	HSA.CED.A.4
7	Rearrange the equation by solving it for a. $4 = \frac{-a + 5}{ka}$	$a = \frac{5}{4k + 1}$	HSA.CED.A.4

Rearranging Equations Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
8	Rearrange the equation by solving it for x. $16 = x^2 + 5y$	$x = \pm\sqrt{16 - 5y}$	HSA.CED.A.4
9	Rearrange the equation by solving it for y. $(y - 7)^2 = x + 4$	$x = \pm\sqrt{x + 4 + 7}$	HSA.CED.A.4
10	Rearrange the equation by solving it for z. $z^3 - 8 = a - 2$	$z = \sqrt[3]{a + 6}$	HSA.CED.A.4
11	The area of the triangle is, $A = \frac{1}{2}bh$ where b represents the base length of the triangle and h represents the height of the triangle. Rewrite the formula by solving it for h and then find the length of the height if the area is 42 in² and the base is 6 in.	$h = \frac{2A}{b}$ $h = \frac{2(42)}{6}$ $h = 14\ in$	HSA.CED.A.4
12	Carolena deposits $4000 in an account that earns simple interest. After 9 months, the account earns $75. The formula for simple interest is, $I = Prt$, I is the interest, P is the principle amount, r is the rate and t is the time in years. Solve the formula for the rate, r, and then find the rate. *(Hint: be sure to make the rate a percent)*	$\frac{I}{Pt} = r$ $\frac{75}{4000 \bullet (0.75)} = r$ 0.025 = r 2.5% = r	HSA.CED.A.4

Question number	Question	Answers	Standard
13	The formula for Celcius is, $C = \frac{5}{9}(F\text{-}32)$, where C is celsius and F is Fahrenheit. Convert the formula to Fahrenheit by solving it for F. If the surface temperature of Mercury is 428°C, use the formula for Fahrenheit to convert the temperature from Celcius to Fahrenheit.	$F = \frac{9}{5}C + 32$ $F = \frac{9}{5}(428) + 32$ $F = 802.4^{\circ}$	HSA.CED.A.4
14	Newton's Law of Gravitation is given by the formula, $F = G\left(\frac{m_1 m_2}{d^2}\right)$ where F is the force between two objects, $m_1 = mass\ of\ object\ 1$ and $m_2 = mass\ of\ object\ 2$, and d is the distance between the objects. Rearrange the formula by solving it for m_2.	$m_2 = \frac{Fd^2}{Gm_1}$	HSA.CED.A.4
15	The volume, V, of a cylinder is given by the formula $V = \pi r^2 h$, where r is the radius of the base and h is the height of the cylinder. Rearrange the formula to make h the subject of the formula.	$h = \frac{V}{\Pi r^2}$	HSA.CED.A.4

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