Literal Equations Worksheet

Algebra

Grades 9 to 12

Literal Equations Worksheet | Grades 9 to 12

Questions

Name: ....

Date: ....

1   Use the formula for distance to solve for $t : d = rt$

Answer

2   Rearrange the formula $A = lw$ to solve for w.

Answer

3   Given $V = \pi r^2 h$, solve for h.

Answer

4   In the equation $P = 2l + 2w$, isolate w.

Answer

5   Solve for b in the area formula of a triangle: $A = \dfrac{1}{2}bh$

Answer

6   Solve the linear equation $3x + 4y = 16$ for y.

Answer

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7   Given $2(x + 3y) = 15$, solve for x.

Answer

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8   Rearrange the formula $K = \dfrac{1}{2}mv^2$ to isolate v.

Answer

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9   Solve for a in the formula $s = ut + \dfrac{1}{2}at^2$

Answer

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10   Given $T = 2\pi\sqrt{\dfrac{L}{g}}$, rearrange to solve for L.

Answer

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11 Use the formula for circumference, $C = 2\Pi r$

A) Solve the formula for r

Answer

B) Find r to the nearest tenth when the $C = 37.7in$

Answer

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12 Solve for a in the equation $\dfrac{a}{b} + \dfrac{c}{d} = e$ and then find a when $b = 4$, $e = -1$ $c = 6$ and $d = -2$

Answer

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13 A) Solve the equation for y, $4y - 3x = 7$

Answer

B) Find y when $x = -10$

Answer

14 A) Given $6x - 4y = 24$, solve for x.

Answer

B) Find x when $y = -\dfrac{1}{4}$

Answer

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15 A) Solve for x in $A = \dfrac{x+y}{b}$

Answer

B) Find x when $A = 12$, $y = 9$ and $b = 3$

Answer

Answers

Question number	Question	Answers	Standard
1	Use the formula for distance to solve for $t : d = rt$	$t = \dfrac{d}{r}$	HSA-CED.A.4
2	Rearrange the formula $A = lw$ to solve for w.	$w = \dfrac{A}{l}$	HSA-CED.A.4
3	Given $V = \pi r^2 h$, solve for h.	$h = \dfrac{V}{\pi r^2}$	HSA-CED.A.4
4	In the equation $P = 2l + 2w$, isolate w.	$w = \dfrac{P - 2l}{2}$ or $w = \dfrac{P}{2} - l$	HSA-CED.A.4
5	Solve for b in the area formula of a triangle: $A = \dfrac{1}{2}bh$	$b = \dfrac{2A}{h}$	HSA-CED.A.4
6	Solve the linear equation for $3x + 4y = 16$	$y = \dfrac{16 - 3x}{4}$ or $y = 4 - \dfrac{3}{4}x$	HSA-CED.A.4 HSA.REI.B.3
7	Given $2(x + 3y) = 15$, solve for x.	$x = \dfrac{15}{2} - 3y$	HSA-CED.A.4 HSA.REI.B.3
8	Rearrange the formula $K = \dfrac{1}{2}mv^2$ to isolate v.	$v = \sqrt{\dfrac{2K}{m}}$	HSA-CED.A.4

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Question number	Question	Answers	Standard
9	Solve for a in the formula $s = ut + \dfrac{1}{2}at^2$	$a = \dfrac{2(s - ut)}{t^2}$	HSA-CED.A.4
10	Given $T = 2\pi\sqrt{\dfrac{L}{g}}$, rearrange to solve for L.	$L = \dfrac{T^2 \cdot g}{4\pi^2}$	HSA-CED.A.4
11	Use the formula for circumference, $C = 2\Pi r$ A) Solve the formula for r Find r to the nearest tenth when the B) $C = 37.7 in$	A) $r = \dfrac{C}{2\Pi}$ B) $r = \dfrac{37.7}{2(\Pi)}$ $r \approx 6\,\text{in}$	HSA-CED.A.4
12	Solve for a in the equation $\dfrac{a}{b} + \dfrac{c}{d} = e$ and then find a when $b = 4, e = -1, c = 6$ and $d = -2$	$a = b(e - \dfrac{c}{d})$ $a = 4(-1 - \dfrac{6}{-2})$ $a = 4(-1 + 3)$ $a = 4(2)$ $a = 8$	HSA-CED.A.4
13	A) Solve the equation for $y, 4y - 3x = 7$ B) Find y when $x = -10$	A) $y = \dfrac{7 + 3x}{4}$ B) $y = \dfrac{7 + 3(-10)}{4}$ $y = \dfrac{-23}{4} = -\dfrac{23}{4}$	HSA-REI.B.3
14	A) Given $6x - 4y = 24$, solve for x. B) Find x when $y = -\dfrac{1}{4}$	A) $x = \dfrac{24 + 4y}{6}$ B) $x = \dfrac{24 + 4(-\frac{1}{4})}{6}$ $x = \dfrac{23}{6}$	HSA-REI.B.3

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Question number	Question	Answers	Standard
15	A) Solve for x in $A = \dfrac{x+y}{b}$ B) Find x when $A = 12, y = 9$ and $b = 3$	A) $x = Ab - y$ B) $x = (12)(3)-9$ $\quad x = 27$	HSA-REI.B.3 HSA.CED.A.4

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