

# Literal Equations Worksheet

Algebra

Grades 9 to 12

### Questions

Name: ......

Date: .....

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



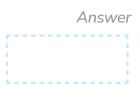
Rearrange the formula A = lw to solve for w.



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



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



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



#### Literal Equations Worksheet | Grades 9 to 12

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

Answer

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



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



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



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



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- 11 Use the formula for circumference,  $C=2\Pi r$ 
  - A) Solve the formula for  $\boldsymbol{r}$



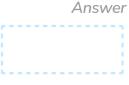
B) Find r to the nearest tenth when the C=37.7in



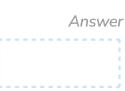
Solve for a in the equation  $\dfrac{a}{b}+\dfrac{c}{d}=e$  and then find a when b=4 , e=-1 c=6 and d=-2



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

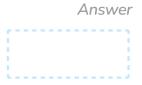


B) Find y when x=-10

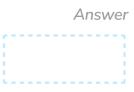


#### Literal Equations Worksheet | Grades 9 to 12

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



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



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



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



#### **Answers**

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

#### Literal Equations Worksheet | Grades 9 to 12 | Answers

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

#### Literal Equations Worksheet | Grades 9 to 12 | Answers

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

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