

Algebra 1 - Literal Equations and Formulas - Quiz

Common Core A-CED.A.4, A-REI.A.1 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Check what you know about literal equations and formulas with 10 multiple-choice questions (A-CED.A.4). Each question has one correct answer, and the explanation points out the common error behind the wrong choices. Use the results to decide what to practice next.

Algebra 1 · Common Core State Standards: **A-CED.A.4, A-REI.A.1**

Questions

Question 1

Solve $d = rt$ for t .

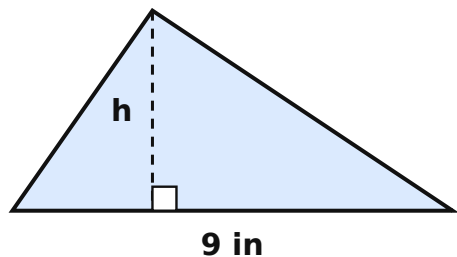
- A. $t = dr$
- B. $t = \frac{d}{r}$
- C. $t = \frac{r}{d}$
- D. $t = d - r$

Question 2

Solve $P = 2l + 2w$ for w .

- A. $w = P - 2l$
- B. $w = \frac{P-l}{2}$
- C. $w = \frac{P-2l}{2}$
- D. $w = \frac{P}{2} + l$

Question 3



The triangle has area $A = 36$ square inches and base 9 inches. Use $A = \frac{1}{2}bh$ to find the height.

- A. 4 in
- B. 8 in
- C. 16 in
- D. 2 in

Question 4

Solve $y = mx + b$ for x .

- A. $x = \frac{y-b}{m}$
- B. $x = \frac{y+b}{m}$
- C. $x = \frac{y}{m} - b$
- D. $x = (y-b)m$

Question 5

Solve $3x + 2y = 12$ for y .

- A. $y = 6 - \frac{3}{2}x$
- B. $y = 12 - \frac{3}{2}x$
- C. $y = 6 + \frac{3}{2}x$
- D. $y = 4 - \frac{2}{3}x$

Question 6

C (°C)	F (°F)
0	32
10	50
25	77

The formula is $C = \frac{5}{9}(F - 32)$. What is C when F is 50?

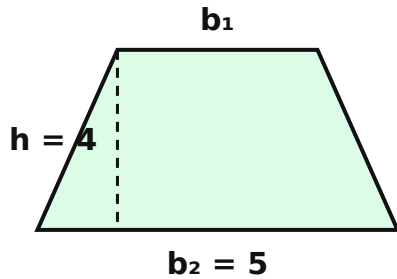
- A. 18°C
- B. 10°C
- C. 82°C
- D. 90°C

Question 7

Simple interest is $I = Prt$. Find the rate when $I = 120$, $P = 1000$, and $t = 2$ years.

- A. 12%
- B. 24%
- C. 6%
- D. 60%

Question 8



The area is 28 and the formula is $A = \frac{1}{2}(b_1 + b_2)h$. What is b_1 ?

- A. 14
- B. 2
- C. 5
- D. 9

Question 9

Solve $ax + b = c$ for x .

- A. $x = c - \frac{b}{a}$
- B. $x = \frac{c+b}{a}$
- C. $x = \frac{b-c}{a}$
- D. $x = \frac{c-b}{a}$

Question 10

Solve $V = \pi r^2 h$ for h .

- A. $h = \frac{V}{\pi r^2}$
- B. $h = \frac{V}{\pi r}$
- C. $h = V \pi r^2$
- D. $h = \frac{V}{2\pi r}$

Answers

1. **B** - Divide both sides by r . Multiplying by r undoes nothing, and subtracting is not the inverse of multiplication.
2. **C** - Subtract $2l$ first, then divide the whole result by 2. Dividing only one term is a common mistake.
3. **B** - $h = 2A/b = 72/9 = 8$. Using A/b without doubling gives 4.
4. **A** - Subtract b first, then divide everything by m . Dividing only y by m leaves b undivided.
5. **A** - Subtract $3x$ to get $2y = 12 - 3x$, then divide both terms by 2.
6. **B** - $C = (5/9)(50 - 32) = (5/9)(18) = 10$, and the table agrees. Forgetting the $5/9$ gives 18.
7. **C** - $r = I/(Pt) = 120/2000 = 0.06$. Dividing by P only gives 12%.
8. **D** - $b_1 = 2A/h - b_2 = 56/4 - 5 = 9$. Forgetting to subtract b_2 gives 14.
9. **D** - Subtract b from both sides, then divide the whole right side by a .
10. **A** - Divide both sides by the whole factor πr^2 .

Remember

- A literal equation contains two or more variables, like a formula.
- Solve for a variable by applying inverse operations to both sides.
- Treat the other letters as if they were numbers.
- When the variable appears in two terms, collect those terms and factor.
- The answer is an expression, not necessarily a number.