

Algebra 1 - Literal Equations and Formulas - Worksheet

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

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

Use these 20 problems to master literal equations and formulas (Common Core A-CED.A.4). You will rearrange area, perimeter, interest, temperature, distance, and volume formulas to isolate a chosen variable, then substitute given values to solve real problems. They move from quick warm-ups to multistep word problems, so slow down on the last six and check that each answer makes sense.

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

Exercise 1 - Distance formula

Solve $d = rt$ for t .

Exercise 2 - Perimeter of a square

Solve $P = 4s$ for s .

Exercise 3 - Area of a rectangle

Solve $A = lw$ for w .

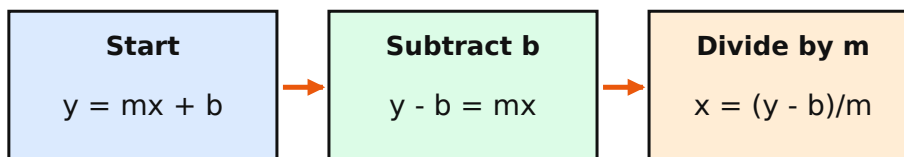
Exercise 4 - Circumference

Solve $C = 2\pi r$ for r .

Exercise 5 - Solve for b

Solve $y = mx + b$ for b .

Exercise 6 - Solve for x



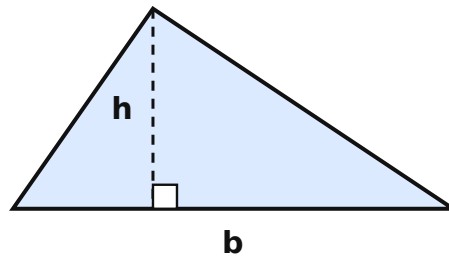
Steps.

Solve $y = mx + b$ for x .

Exercise 7 - Perimeter of a rectangle

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

Exercise 8 - Area of a triangle



A triangle.

Solve $A = \frac{1}{2}bh$ for h .

Exercise 9 - Temperature formula

Solve $F = \frac{9}{5}C + 32$ for C .

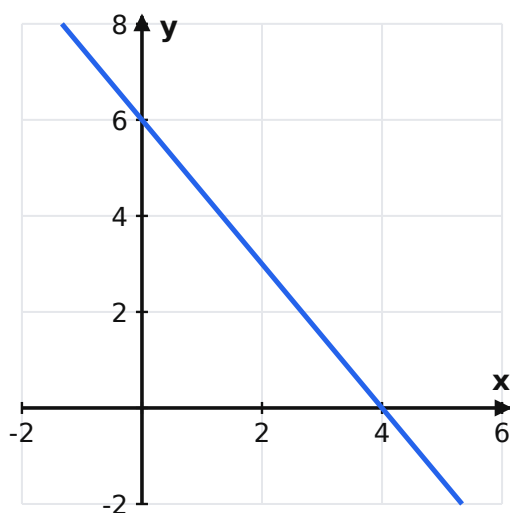
Exercise 10 - Volume of a prism

Solve $V = lwh$ for h .

Exercise 11 - General linear form

Solve $ax + b = c$ for x .

Exercise 12 - Standard form to slope-intercept



The line $3x + 2y = 12$.

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

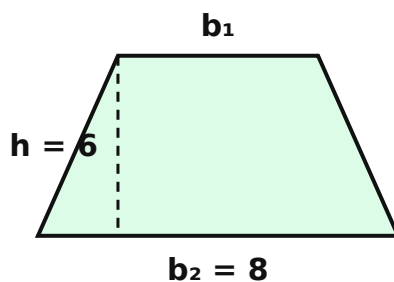
Exercise 13 - Variable on both sides

Solve $ax + b = cx + d$ for x . Assume $a \neq c$.

Exercise 14 - Surface area of a cylinder

Solve $S = 2\pi r^2 + 2\pi rh$ for h .

Exercise 15 - Trapezoid



A trapezoid with area 60.

Solve $A = \frac{1}{2}(b_1 + b_2)h$ for b_1 , then find b_1 when $A = 60$, $h = 6$, and $b_2 = 8$.

Exercise 16 - Simple interest

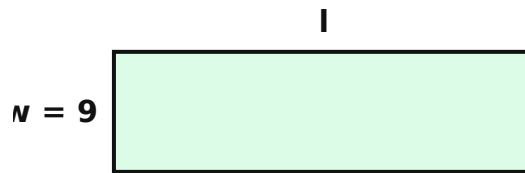
Simple interest is $I = Prt$. Sofia earns \$180 in interest on \$1,500 at a rate of $r = 0.04$ (4%).

Solve the formula for t , then find the number of years.

Exercise 17 - Convert a temperature

A weather app shows 77°F . Use the formula $C = \frac{5}{9}(F - 32)$ to find the temperature in degrees Celsius.

Exercise 18 - Fence length



Dog run, perimeter 46 feet.

A rectangular dog run has perimeter 46 feet and width 9 feet. Solve $P = 2l + 2w$ for l , then find the length.

Exercise 19 - Road trip speed

Diego drives 330 miles in 5.5 hours. Solve $d = rt$ for r and find his average speed in miles per hour.

Exercise 20 - Slope formula

The slope formula is $m = \frac{y_2 - y_1}{x_2 - x_1}$. Solve it for y_2 , then find y_2 when $m = 3$, $x_1 = 1$, $x_2 = 5$, and $y_1 = 2$.

Exercise 21 - Soup can

A cylinder-shaped can has volume $V = \pi r^2 h$. A can has radius 3 inches and volume 90π cubic inches. Solve the formula for h and find the height.