

Algebra 1 - Writing Linear Equations and Functions - Worksheet

Common Core F-LE.A.2, F-BF.A.1a, A-CED.A.2 · maths-pdf.fr/en/

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

This worksheet has 20 problems on writing linear equations and functions, aligned to Common Core F-LE.A.2, F-BF.A.1a, and A-CED.A.2. You will write equations from graphs, tables, points, and slopes, build linear models from word problems, and work with parallel and perpendicular lines. Early problems check one skill at a time; the final six put the skill inside real situations. Write each step on paper before you look at the answer key.

Algebra 1 · Common Core State Standards: **F-LE.A.2, F-BF.A.1a, A-CED.A.2**

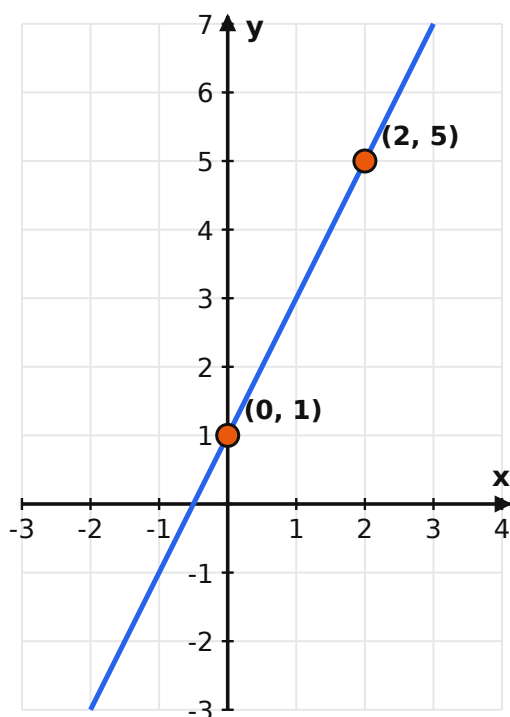
Exercise 1 - Slope and intercept given

Write the equation of the line with slope 4 and y-intercept -3 .

Exercise 2 - Slope and y-intercept point

Write the equation of the line with slope -2 that passes through $(0,5)$.

Exercise 3 - Equation from a graph



A line.

Write the equation of the line shown.

Exercise 4 - Point and slope

Write the equation of the line with slope 3 through (2,4) in point-slope form and slope-intercept form.

Exercise 5 - Fraction slope

Write the equation of the line with slope $-\frac{1}{2}$ through (4,1).

Exercise 6 - Two points, positive slope

Write the equation of the line through (2,5) and (4,9).

Exercise 7 - Two points

Write the equation of the line through $(-2,7)$ and $(4,-5)$.

Exercise 8 - Equation from a table

x	1	2	3	4
y	7	10	13	16

Values of a linear function.

Write an equation for the linear function in the table.

Exercise 9 - Table with steps of 2

x	2	4	6
y	1	-3	-7

A linear table.

Write an equation for the table.

Exercise 10 - Parallel line

Write the equation of the line through $(3, -1)$ that is parallel to $y = 2x + 5$.

Exercise 11 - Perpendicular line

Write the equation of the line through $(4, 3)$ that is perpendicular to $y = 2x - 1$.

Exercise 12 - Horizontal and vertical

Write the equation of the horizontal line and the vertical line through $(-3, 2)$.

Exercise 13 - Standard form

Write $y = \frac{3}{4}x - 2$ in standard form $Ax + By = C$ with integer coefficients.

Exercise 14 - Function notation

A linear function has $f(0) = -4$ and $f(3) = 5$. Write $f(x)$.

Exercise 15 - Do three points line up?

Do the points $(1, 2)$, $(3, 8)$, and $(5, 14)$ lie on one line? If so, write the equation.

Exercise 16 - Cell plan

A cell plan costs \$20 per month plus \$0.05 per text. Write a function $C(x)$ for the monthly cost of x texts, and find the cost of 300 texts.

Exercise 17 - Plumber

Hours	Charge
1	\$105
2	\$165
3	\$225

Plumber charges.

A plumber charges a \$45 trip fee plus an hourly rate. The table shows the total charge. Write an equation and find the charge for 2.5 hours.

Exercise 18 - Candle

A candle is 12 inches tall and burns at 0.75 inch per hour. Write a function for its height H after t hours. When is it 3 inches tall? When does it burn out?

Exercise 19 - Car rental

Days	Cost
3	\$135
5	\$205

Two rental prices.

A car rental costs \$135 for 3 days and \$205 for 5 days. Assuming a linear cost, write an equation for the cost C of d days and find the cost for 7 days.

Exercise 20 - Filling a pool

A kiddie pool has 150 gallons after 2 hours of filling and 330 gallons after 5 hours. Write a linear function for the gallons G after h hours and find the amount after 8 hours.

Exercise 21 - Perpendicular road

On a map, a road is modeled by $y = -\frac{1}{3}x + 2$. A new road is perpendicular to it and passes through $(6,1)$. Write its equation.