

Algebra 1 - Graphing Linear Equations - Worksheet

Common Core A-REI.D.10, F-IF.C.7a, A-CED.A.2 · maths-pdf.fr/en/

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

These 20 problems practice graphing linear equations (Common Core A-REI.D.10, F-IF.C.7a, and A-CED.A.2). You will graph lines from slope-intercept, standard, and point-slope forms, find intercepts, test points, and model situations with linear equations. The first problems are short skill checks, and the last six are word problems that need several steps. Work in order and show every line of your work, because a bare answer earns little credit on a test.

Algebra 1 · Common Core State Standards: **A-REI.D.10, F-IF.C.7a, A-CED.A.2**

Exercise 1 - Slope and intercept

Identify the slope and the y-intercept of $y = 3x - 5$.

Exercise 2 - Fraction slope

Identify the slope and the y-intercept of $y = -\frac{3}{4}x + 5$.

Exercise 3 - Graph $y = 2x + 1$

Graph $y = 2x + 1$.

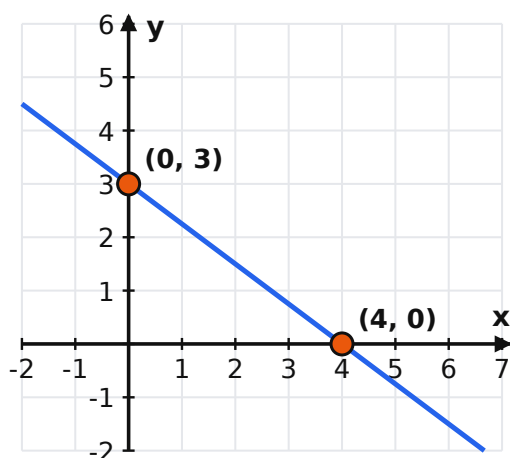
Exercise 4 - Negative slope

Graph $y = -3x + 2$.

Exercise 5 - Fraction slope graph

Graph $y = \frac{3}{2}x - 2$.

Exercise 6 - Intercepts



The line $3x + 4y = 12$.

Find the x-intercept and y-intercept of $3x + 4y = 12$.

Exercise 7 - Graph with intercepts

Graph $2x - y = 4$ using its intercepts.

Exercise 8 - Standard to slope-intercept

Rewrite $6x + 3y = 9$ in slope-intercept form.

Exercise 9 - Horizontal and vertical

Graph the lines $y = -2$ and $x = 3$.

Exercise 10 - Point-slope form

Write an equation in point-slope form for the line with slope 2 through $(3, 1)$, then rewrite it in slope-intercept form.

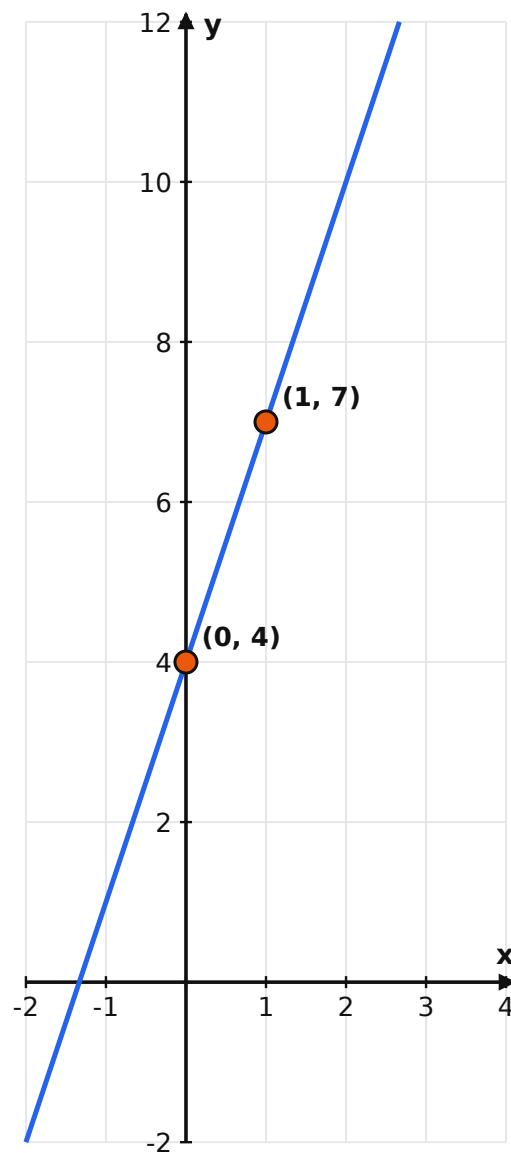
Exercise 11 - Graph point-slope

Graph $y + 2 = \frac{1}{2}(x - 4)$.

Exercise 12 - Is the point on the line?

Decide whether each point is on the line $y = 2x + 1$: (a) $(3, 7)$ (b) $(-1, 4)$.

Exercise 13 - Match the graph



Cost of a trampoline park.

The graph shows the cost y in dollars of x hours at a trampoline park. Write an equation for the cost and say what the slope means.

Exercise 14 - Complete a table

x	$y = -x + 5$
-2	7
0	5
3	2

Complete a table of three solutions of $y = -x + 5$ using $x = -2$, $x = 0$, $x = 3$.

Exercise 15 - Compare steepness

Line A is $y = 3x + 1$. Line B passes through $(0, 4)$ and $(2, 12)$. Which line is steeper?

Exercise 16 - Bike rental

Ethan rents a bike for an \$8 fee plus \$6 per hour. The cost is $y = 6x + 8$. Identify the slope and intercept in context, then find the cost for 3.5 hours.

Exercise 17 - Fundraiser tickets

At a Little League fundraiser, adult tickets cost \$5 (x) and student tickets cost \$2 (y). The goal is \$40, so $5x + 2y = 40$. Find the intercepts and explain them. Then find y when $x = 4$.

Exercise 18 - Draining tank

Minutes	Gallons left
0	60
5	45
10	30

Tank readings.

A tank holds 60 gallons and drains at 3 gallons per minute, so $y = 60 - 3x$ gallons remain after x minutes. Find both intercepts, explain them, and give a reasonable domain.

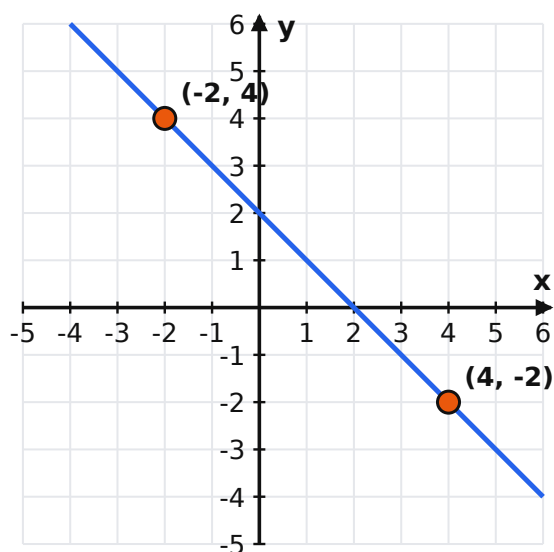
Exercise 19 - Moving company

A moving company charges $y = 25x + 50$ dollars for x hours. Find the cost of 4 hours and the number of hours for \$225.

Exercise 20 - Temperature graph

The formula $F = \frac{9}{5}C + 32$ converts Celsius to Fahrenheit. Identify the slope and intercept and find F when $C = 100$.

Exercise 21 - Equation from two points



A line.

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