

Grade 6 - Independent and Dependent Variables - Worksheet

Common Core 6.EE.C.9 · maths-pdf.fr/en/

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

These 20 problems practice relationships between independent and dependent variables (Common Core 6.EE.C.9). You will name variables, write equations like $y = kx$ and $y = x + c$, complete tables, read and draw graphs, and solve real-world problems about rate and distance.

Grade 6 · Common Core State Standards: **6.EE.C.9**

Exercise 1 - Name the variables

A taxi charges \$3 for each mile. The cost y depends on the number of miles x . Which variable is independent and which is dependent? Write an equation.

Exercise 2 - Equation from a table

x	1	2	3	4
y	5	10	15	20

A table of values.

Write an equation that relates y to x .

Exercise 3 - Complete a table

x	1	2	3	5
y	?	?	?	?

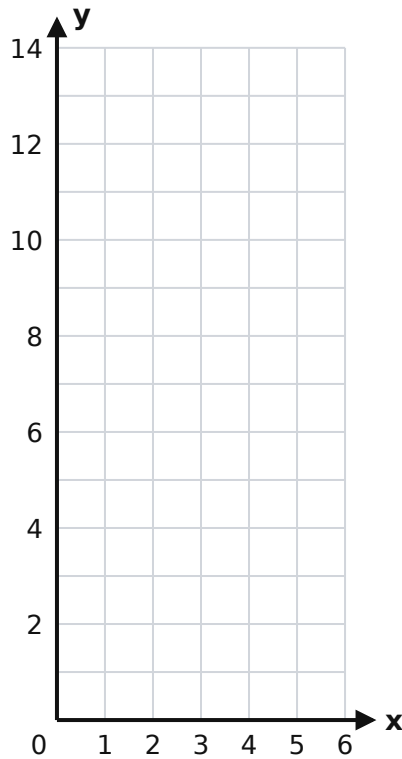
Fill in y .

Complete the table for the equation $y = x + 4$.

Exercise 4 - Evaluate an equation

For $y = 4x$, find y when $x = 7$, and find x when $y = 36$.

Exercise 5 - Graph $y = 2x$



Coordinate plane.

Make a table for $y = 2x$ with $x = 0, 1, 2, 3$ and graph the points.

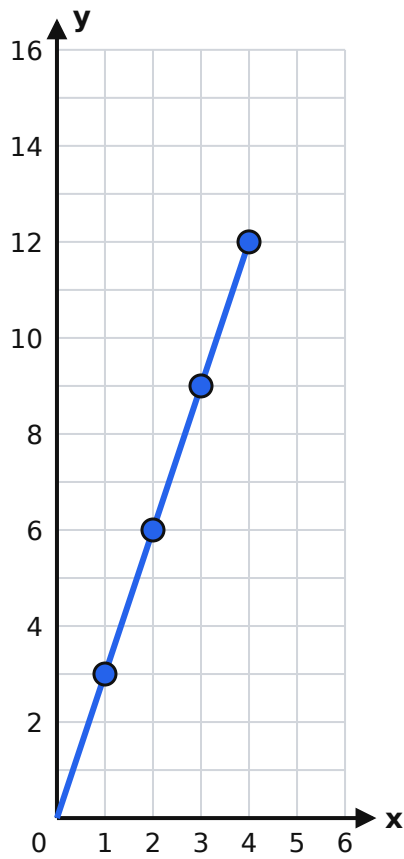
Exercise 6 - Equation from a table with division

x	2	4	6	8
y	1	2	3	4

A table.

Write an equation that relates y to x .

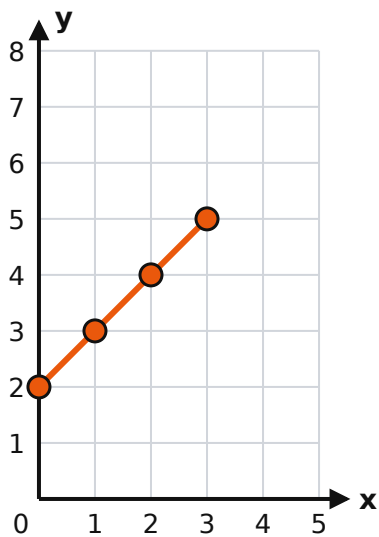
Exercise 7 - Read a graph



Points on a line.

Write an equation for the graph and find y when x is 5.

Exercise 8 - Graph $y = x + 2$



A line that does not pass through the origin.

The graph shows $y = x + 2$. How is it different from the graph of $y = 2x$?

Exercise 9 - Walking distance

Aisha walks at 4 miles per hour. Write an equation for the distance d (miles) after t hours. Which variable is independent? Complete a table for $t = 1, 2, 3, 5$.

Exercise 10 - Age difference

Jamal is 4 years older than his cousin Priya. Write an equation for Jamal's age j in terms of Priya's age p . Find j when p is 9.

Exercise 11 - Hourly pay

Hours (h)	1	2	3	4
Pay (p)	\$9	\$18	\$27	\$36

Pay at a car wash.

Write an equation for the pay p in terms of the hours h and find the pay for 8 hours.

Exercise 12 - Perimeter of a square

s	1	2	3	4
P	4	8	12	16

Squares of different sizes.

Write an equation for the perimeter P of a square in terms of its side length s .

Exercise 13 - Which table matches?

x	1	2	3
Table A: y	3	6	9
Table B: y	4	5	6

Two tables of values.

Which table matches $y = x + 3$? Which matches $y = 3x$?

Exercise 14 - Distance and time

A car travels at 55 miles per hour. Write an equation for the distance d after t hours. How long does it take to go 275 miles?

Exercise 15 - Cookie trays

A bakery puts 12 cookies on each tray. Write an equation for the number of cookies c on t trays, and find how many trays hold 108 cookies.

Exercise 16 - Independent or dependent?

For each pair, name the independent variable and the dependent variable. (a) The number of hours you study and your test score. (b) The number of pizzas ordered and the total cost.

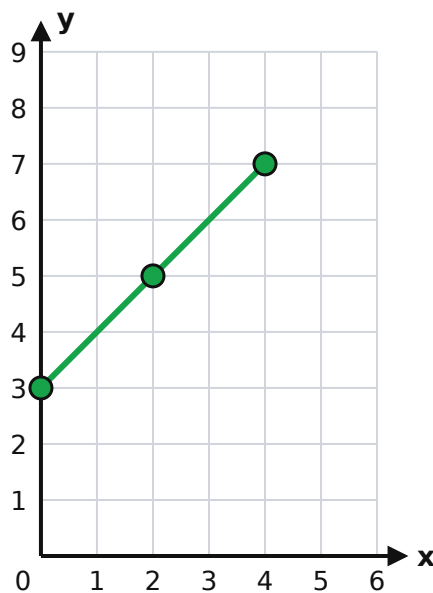
Exercise 17 - Water tank

A tank fills at 6 gallons per minute. Write an equation for the gallons g after m minutes, then find the time to fill 90 gallons.

Exercise 18 - Match the situation

Match each situation to $y = 5x$ or $y = x + 5$. (a) Ana earns \$5 for every hour x she works, so y is her pay. (b) Ana is 5 years older than her brother, who is x years old, so y is her age.

Exercise 19 - Growth table



Plant height (inches) after weeks.

A plant is 3 inches tall at the start and grows 1 inch each week. The graph shows its height y

after x weeks. Write an equation and find the height after 10 weeks.

Exercise 20 - Multi-step relationship

Mei saves \$7 each week. Write an equation for her savings s after w weeks. Make a table for $w = 2, 4, 6, 8$ and find when she has saved \$84.