

Grade 7 - Proportional Relationships and $y = kx$ - Test

Common Core 7.RP.A.2 · maths-pdf.fr/en/

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

This 45-minute test checks proportional relationships, including tables, graphs, the constant of proportionality, and equations of the form $y = kx$ (Common Core 7.RP.A.2). It has 9 questions worth 20 points in all. Show your work, because most questions give partial credit for correct steps.

About this test

- Grade: Grade 7
- Chapter: Proportional Relationships and $y = kx$
- Standards: 7.RP.A.2
- Time: 45 minutes
- Total: 20 points

Question 1 - Table test [2 pts]

x	3	5	8
y	7.5	12.5	20

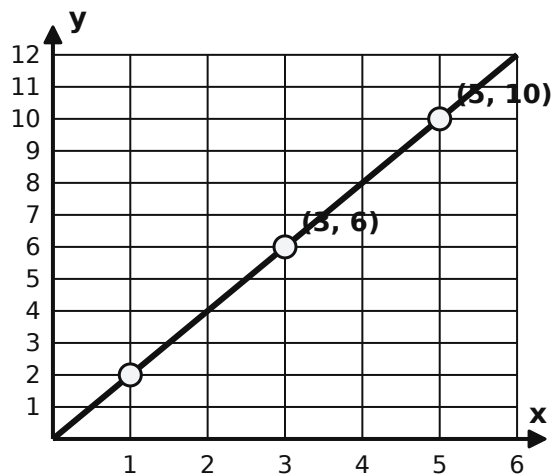
Values of x and y.

Decide whether the table shows a proportional relationship. If it does, write an equation.

Question 2 - Find k [2 pts]

A proportional relationship contains the point (8, 14). Find the constant of proportionality and write the equation. Then find y when $x = 20$.

Question 3 - Graph test [2 pts]



Graph of a relationship.

- Explain how you know the relationship is proportional. (1 point)
- Write the equation. (1 point)

Question 4 - Complete a table [2 pts]

The equation $y = 6.5x$ gives the cost y of x movie tickets. Complete the table for $x = 2, 5, 12$.

Question 5 - Meaning of a point [2 pts]

The graph of the cost of bananas passes through (4, 3) and is proportional. State the cost of 1 pound and the cost of 10 pounds.

Question 6 - Compare plans [2 pts]

A car wash charges \$8 per car. A second wash charges \$5 plus \$6 per car. Write an equation for each (cost y , cars x) and tell which one is proportional.

Question 7 - Fraction table [2 pts]

x	$\frac{1}{4}$	$\frac{1}{2}$	1
y	$\frac{1}{6}$		

A partly filled table.

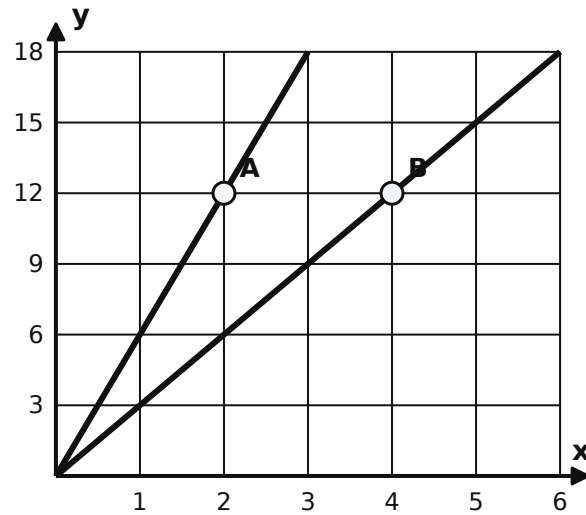
The relationship is proportional. Find k and complete the table.

Question 8 - Dog walking [3 pts]

Priya earns \$60 for walking dogs 8 hours. Her pay is proportional to hours. (a) Write an

equation. (b) Find her pay for 5 hours. (c) Find the hours she needs to earn \$150.

Question 9 - Two lines [3 pts]



Plant growth of two seedlings: A passes through (2, 12), B through (4, 12).

- Find the constant of proportionality for each line. (1 point)
- Write both equations. (1 point)
- Find which line has the greater value of y when $x=5$ and by how much. (1 point)