

Geometry - Coordinate Geometry and Proofs - Test

Common Core G-GPE.B.4, G-GPE.B.5, G-GPE.B.6, G-GPE.B.7 · maths-pdf.fr/en/

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

This 45-minute test checks slopes, distance, partitioning segments and coordinate proofs. It has 9 questions worth 20 points in total. Show every step of the work, label diagrams, and include units where they apply. Calculators are allowed unless the teacher says otherwise.

About this test

- Grade: Geometry
- Chapter: Coordinate Geometry and Proofs
- Standards: G-GPE.B.4, G-GPE.B.5, G-GPE.B.6, G-GPE.B.7
- Time: 45 minutes
- Total: 20 points

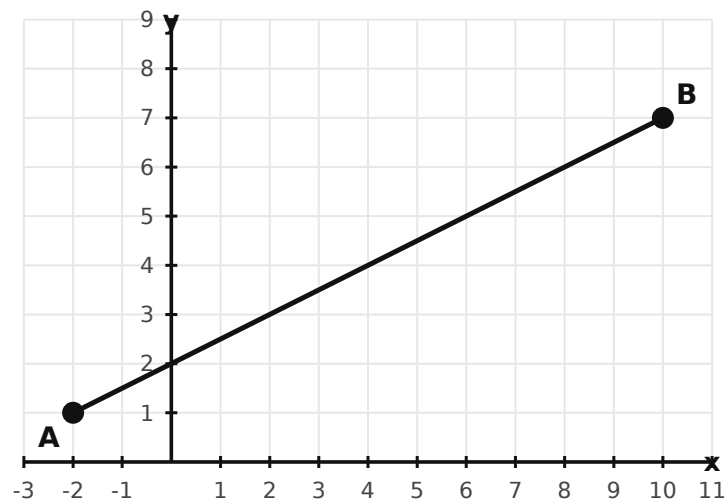
Question 1 - Parallel and perpendicular [2 pts]

The line m passes through $(2, 5)$ and $(6, 7)$. (a) Write an equation of the line through $(0, 1)$ parallel to m . (b) Write the slope of a line perpendicular to m .

Question 2 - Perpendicular through a point [2 pts]

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

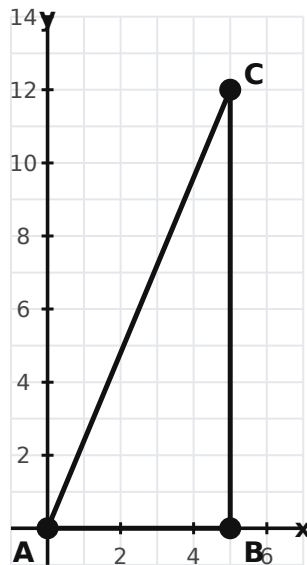
Question 3 - Partition and distance [3 pts]



Segment AB.

- Find the point P on AB with $AP : PB = 1 : 3$. (1 point)
- Find the length of AB in simplest radical form. (1 point)
- Find the length of AP. (1 point)

Question 4 - Perimeter [2 pts]



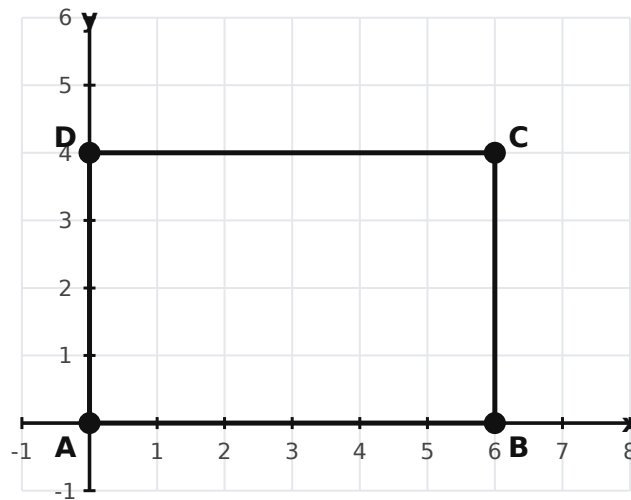
Triangle ABC.

Find the perimeter of triangle ABC.

Question 5 - Area [2 pts]

Find the area of the triangle with vertices $(1, 1)$, $(9, 1)$ and $(5, 7)$.

Question 6 - Rectangle proof [3 pts]



Quadrilateral ABCD.

Prove that the quadrilateral with vertices $A(0, 0)$, $B(6, 0)$, $C(6, 4)$ and $D(0, 4)$ is a rectangle, and find the length of its diagonals.

Question 7 - Isosceles triangle [2 pts]

Show that the triangle with vertices $A(-2, 0)$, $B(2, 0)$ and $C(0, 6)$ is isosceles and find its perimeter.

Question 8 - Meeting point [2 pts]

Two friends live at $(1, 2)$ and $(13, 14)$ on a map grid. They meet two thirds of the way from the first friend to the second. Find the meeting point.

Question 9 - Parallelogram [2 pts]

Show that the quadrilateral with vertices $A(0, 0)$, $B(4, 1)$, $C(6, 5)$ and $D(2, 4)$ is a parallelogram

by finding the midpoints of both diagonals.