

Geometry - Points, Lines, Segments and Angles - Worksheet

Common Core G-CO.A.1 · maths-pdf.fr/en/

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

These 20 problems practice segment addition, midpoints, angle addition, bisectors and basic definitions (Common Core G-CO.A.1). The first problems are quick one-step checks of the definitions and formulas from the lesson. The middle problems ask for diagrams, equations and careful reasoning in the style of a high school Geometry class. The last six problems are word problems that combine midpoints, angles, clocks and map coordinates.

Geometry · Common Core State Standards: **G-CO.A.1**

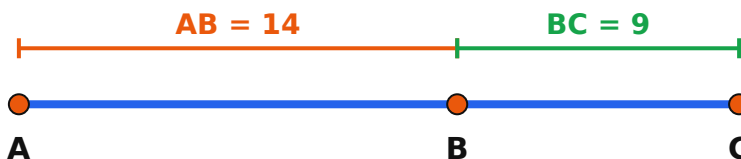
Exercise 1 - Length on a number line

Point A is at -3 and point B is at 9 on a number line. Find AB .

Exercise 2 - Midpoint on a number line

Find the coordinate of the midpoint of the segment with endpoints at 4 and 18 .

Exercise 3 - Segment addition



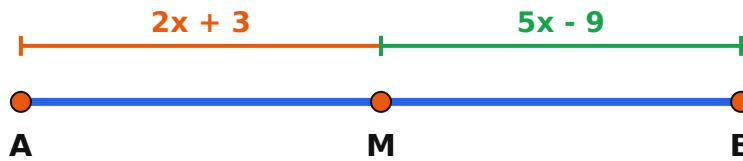
Point B lies between A and C.

Find AC .

Exercise 4 - Segment with a variable

Point B is between A and C. $AB = 3x - 2$, $BC = x + 8$ and $AC = 34$. Find x , AB and BC .

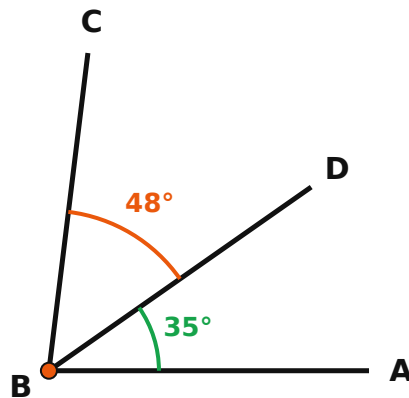
Exercise 5 - Midpoint with a variable



M is the midpoint of segment AB.

Find x and AB .

Exercise 6 - Angle addition



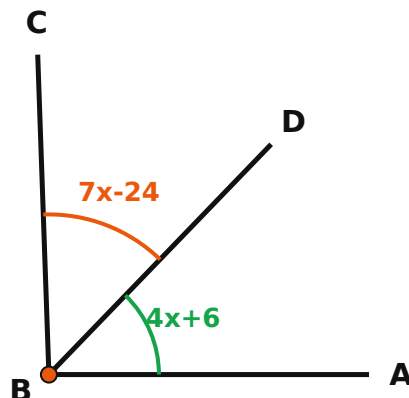
Ray BD is inside angle ABC.

Find $m\angle ABC$.

Exercise 7 - Angle bisector

Ray BD bisects $\angle ABC$ and $m\angle ABC = 76^\circ$. Find $m\angle ABD$.

Exercise 8 - Bisector with a variable



Ray BD bisects angle ABC.

Ray BD bisects $\angle ABC$. Find x and $m\angle ABC$.

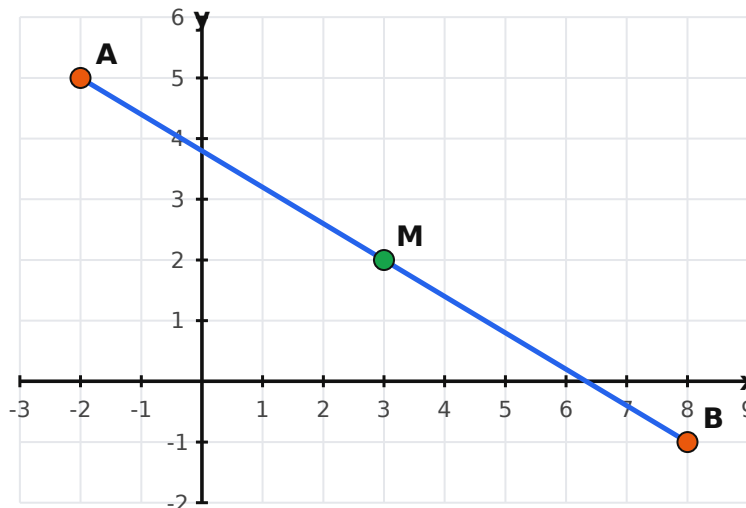
Exercise 9 - Complement and supplement

An angle measures 37° . Find the measure of its complement and of its supplement.

Exercise 10 - Linear pair

Two angles form a linear pair. Their measures are $(3x+10)^\circ$ and $(5x-6)^\circ$. Find x and both angle measures.

Exercise 11 - Midpoint in the plane



Segment AB with its midpoint M.

Find the midpoint of the segment with endpoints $A(-2,5)$ and $B(8,-1)$.

Exercise 12 - Find an endpoint

The midpoint of $\overline{AB}$ is $M(1,-2)$ and $A(-3,4)$. Find the coordinates of B.

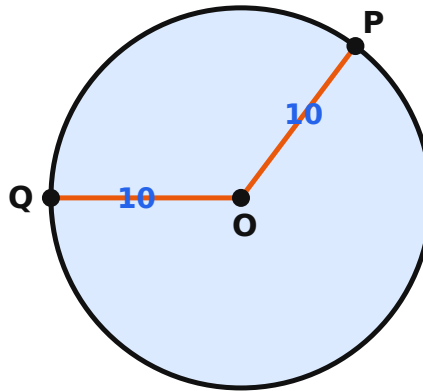
Exercise 13 - Distance in the plane

Find the length of the segment with endpoints $(1,2)$ and $(7,10)$.

Exercise 14 - Perpendicular lines

Line m is perpendicular to line n . One of the four angles they form measures $(2x+10)^\circ$. Find x .

Exercise 15 - Points on a circle



Circle with center $O(0, 0)$.

A circle has center $O(0,0)$ and passes through $P(6,8)$. Find its radius. Then decide whether $Q(-10,0)$ is on the circle.

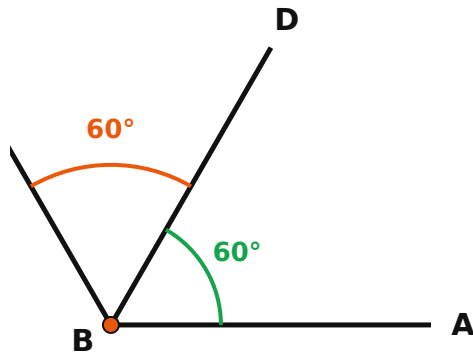
Exercise 16 - Trail rest stop

Mile markers on a straight trail show a trailhead at mile 3.2 and a lake at mile 11.6. Maya wants a rest stop exactly halfway between them. Find the mile marker of the rest stop and how far it is from each end.

Exercise 17 - Fence line

A straight fence runs from corner post A to corner post C with a gate post B between them. The distance AB is twice the distance BC, and AC is 45 feet. Find AB and BC.

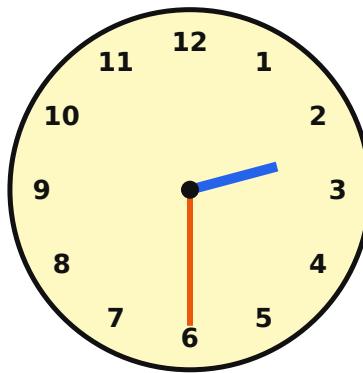
Exercise 18 - Garden path



The path BD bisects the corner angle ABC.

A garden corner forms $\angle ABC$ with $m\angle ABC = 120^\circ$. A path along ray BD bisects the corner, and $m\angle ABD = (5x+10)^\circ$. Find x .

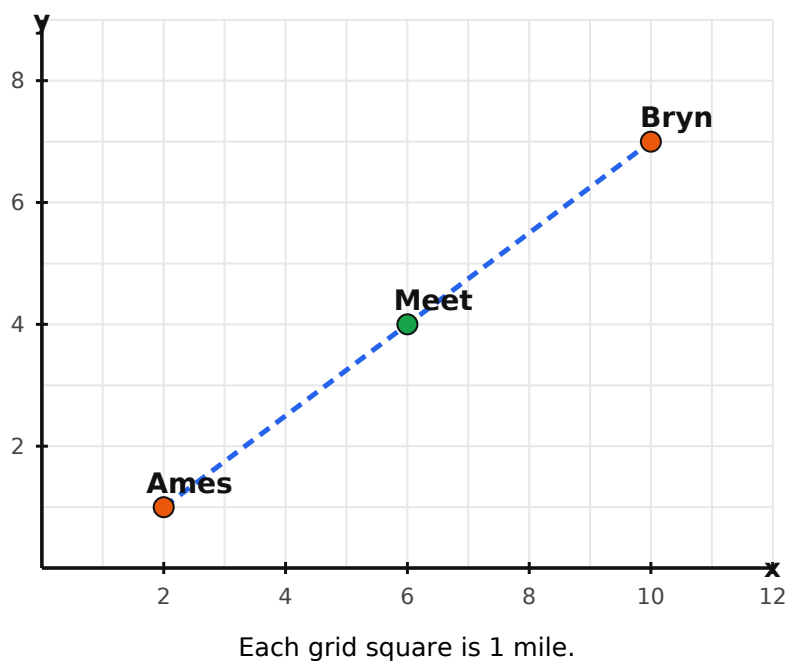
Exercise 19 - Angle between clock hands



Clock showing 2:30.

Find the angle between the hour hand and the minute hand at 2:30. Then find the angle at 4:00.

Exercise 20 - Meeting halfway



On a map grid with 1 mile per square, Ames is at (2, 1) and Bryn is at (10, 7). Liam and Priya, who live in these towns, meet at the midpoint of the straight route between them. Find the meeting point and the distance Liam travels.