

Geometry · Points, Lines, Planes, Segments and Angles · Test

Common Core G-CO.A.1 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This 45-minute test covers undefined terms, definitions, the Segment and Angle Addition Postulates, midpoints, bisectors and angle pairs (G-CO.A.1). It has 8 questions worth 20 points. Show your equations for full credit.

Test information

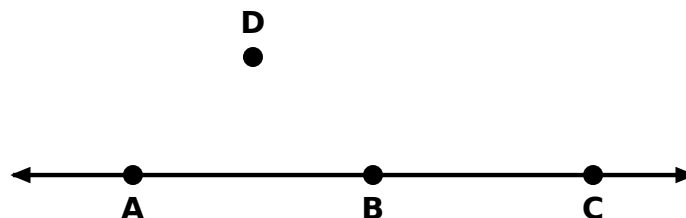
- **Grade:** Geometry
- **Chapter:** Points, Lines, Planes, Segments and Angles
- **Common Core:** G-CO.A.1
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 3 pts; Question 4: 2 pts; Question 5: 3 pts; Question 6: 2 pts; Question 7: 3 pts; Question 8: 3 pts)

Question 1: Undefined terms and definitions (2 points)

- Name the three undefined terms of geometry. (1 point)
- Write a precise definition of a ray. (1 point)

Question 2: Naming rays and points (2 points)

Use the figure.

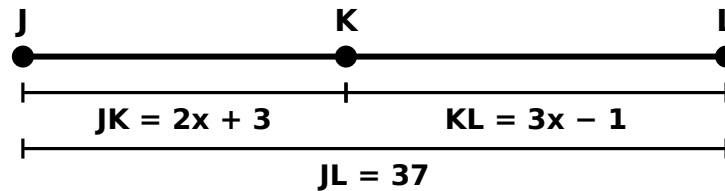


Points A, B and C are on one line; D is not.

- Name the ray with endpoint B that passes through C. (1 point)
- Name a pair of opposite rays. (1 point)

Question 3: Segment addition (3 points)

K is between J and L.



$$JK = 2x + 3, KL = 3x - 1, JL = 37.$$

- a. Find x . (2 points)
- b. Find KL . (1 point)

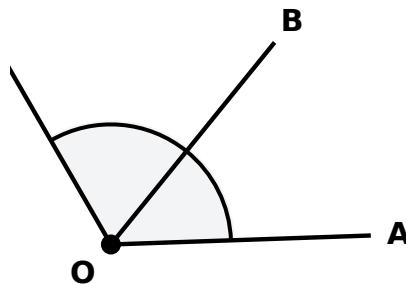
Question 4: Midpoint (2 points)

N is the midpoint of $\overline{RS}$. $RN = 5x - 4$ and $NS = 3x + 8$.

- a. Find x . (1 point)
- b. Find RS . (1 point)

Question 5: Angle addition (3 points)

Ray OB lies inside $\angle AOC$, and $m\angle AOC = 118^\circ$.



$$m\angle AOB = (3x + 7)^\circ \text{ and } m\angle BOC = (5x - 1)^\circ.$$

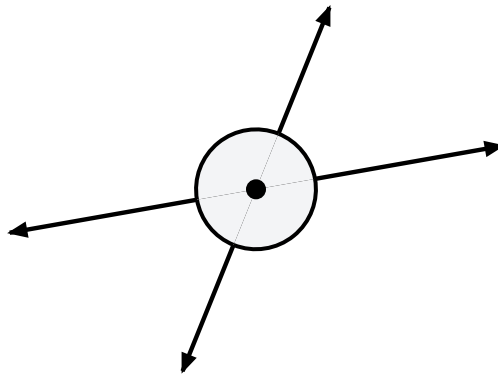
- a. Find x . (2 points)
- b. Find $m\angle BOC$. (1 point)

Question 6: Complement problem (2 points)

The measure of an angle is 4 times the measure of its complement. Find the measure of the angle and of its complement.

Question 7: Vertical angles and linear pairs (3 points)

Two lines intersect. $m\angle 1 = (6x - 8)^\circ$ and $m\angle 3 = (4x + 14)^\circ$.

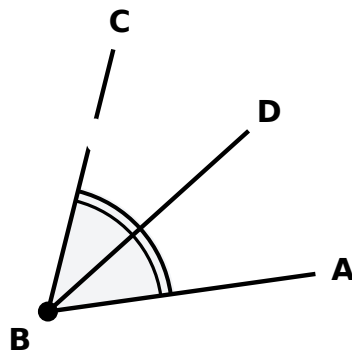


Angles 1 and 3 are opposite angles.

- Find x . (1 point)
- Find $m\angle 1$. (1 point)
- Find $m\angle 2$ and name the angle relationship you used. (1 point)

Question 8: Angle bisector (3 points)

Ray BD bisects $\angle ABC$.



$m\angle ABD = (4x - 6)^\circ$ and $m\angle DBC = (2x + 14)^\circ$.

- Find x . (1 point)
- Find $m\angle ABC$. (1 point)

c. Classify $\angle ABC$ as acute, right or obtuse. (1 point)