

Grade 7 · Angle Relationships · Test

Common Core 7.G.B.5 · mathovore.fr

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

This 45-minute test checks Common Core standard 7.G.B.5 on angle relationships. It has eight questions worth 20 points in total. Write an equation whenever a variable appears, show each step of your work, and give final angle measures with the degree symbol.

Test information

- **Grade:** Grade 7
- **Chapter:** Angle Relationships
- **Common Core:** 7.G.B.5
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 3 pts; Question 5: 3 pts; Question 6: 2 pts; Question 7: 3 pts; Question 8: 3 pts)

Question 1: Complement and supplement (2 points)

- Find the complement of 64° . (1 point)
- Find the supplement of 64° . (1 point)

Question 2: Vertical angles (2 points)

Two lines cross as shown. Find the measures of angles a , b , and c .

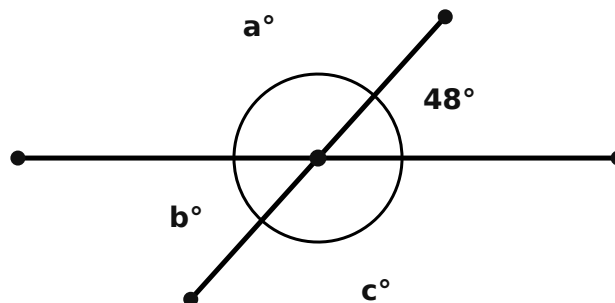


Figure for Question 2.

- Find a . (1 point)
- Find b and c . (1 point)

Question 3: Equation on a line (2 points)

The angles shown lie along a straight line.

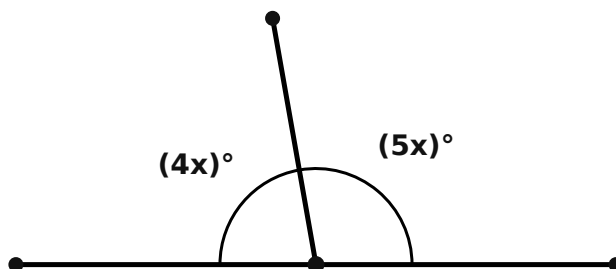


Figure for Question 3.

- Find x . (1 point)
- Find the measure of the larger angle. (1 point)

Question 4: Complementary equation (3 points)

Two complementary angles measure $(x+14)^\circ$ and $(2x-5)^\circ$.

- Write and solve an equation for x . (2 points)
- Find the measure of each angle. (1 point)

Question 5: Vertical angles equation (3 points)

Two lines cross as shown.

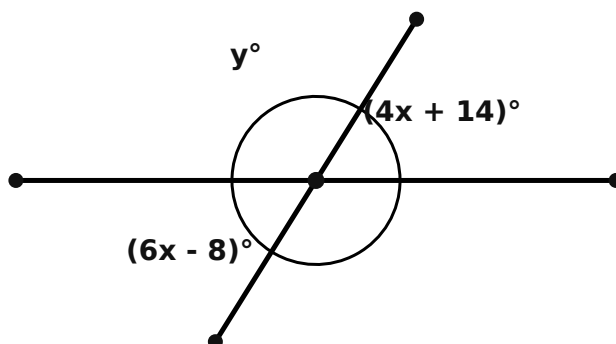


Figure for Question 5.

- Write and solve an equation to find x . (2 points)
- Find the measure of angle y . (1 point)

Question 6: Checking a claim (2 points)

Jamal says that angles measuring 70° and 100° are supplementary.

- Is Jamal correct? Explain. (1 point)
- Find the measure of an angle that is supplementary to 70° . (1 point)

Question 7: Road intersection (3 points)

A side street meets a straight highway. The angles it makes with the highway measure $(2x+20)^\circ$ and $(x+10)^\circ$.

- Write an equation. (1 point)
- Solve for x . (1 point)
- Find both angle measures. (1 point)

Question 8: Three angles on a line (3 points)

Three adjacent angles form a straight line.

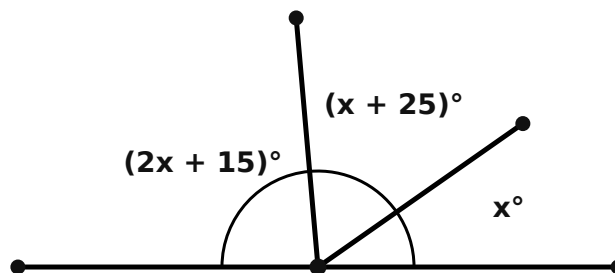


Figure for Question 8.

- Write an equation. (1 point)
- Solve for x . (1 point)
- Find the largest angle. (1 point)