

Geometry - Law of Sines and Law of Cosines - Test

Common Core G-SRT.D.9, G-SRT.D.10, G-SRT.D.11 · maths-pdf.fr/en/

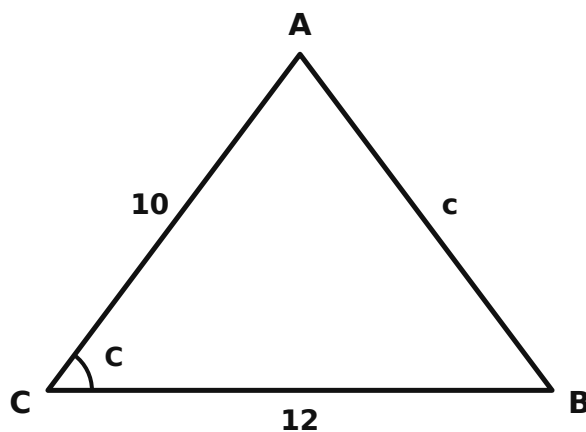
Name: _____ Class: _____ Date: ____/____/____

This 45-minute test checks solving non-right triangles and finding their areas. 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: Law of Sines and Law of Cosines
- Standards: G-SRT.D.9, G-SRT.D.10, G-SRT.D.11
- Time: 45 minutes
- Total: 20 points

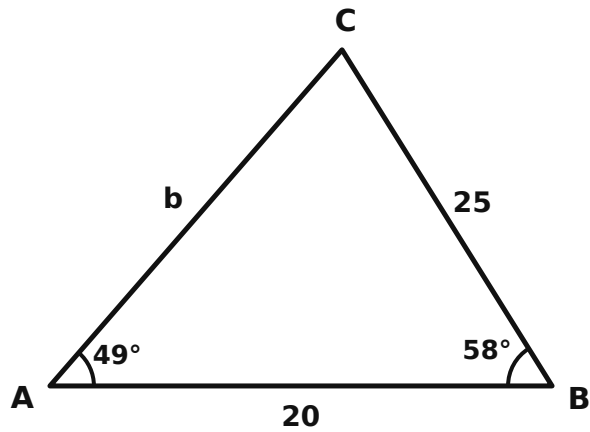
Question 1 - Angle from the area [2 pts]



Area 48.

A triangle with sides 12 and 10 has an area of 48 square units. Find the acute angle C between the two sides to the nearest tenth of a degree.

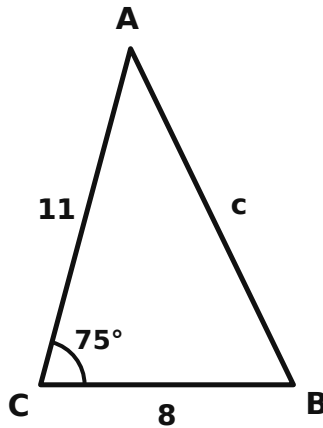
Question 2 - Law of Sines [2 pts]



Triangle ABC.

Find side b to the nearest tenth.

Question 3 - Law of Cosines [3 pts]



Triangle ABC.

- Write the Law of Cosines for this triangle. (1 point)
- Find c to the nearest tenth. (2 points)

Question 4 - Angle from three sides [2 pts]

A triangle has sides 6, 7 and 10. Find the angle opposite the side of length 7 to the nearest tenth.

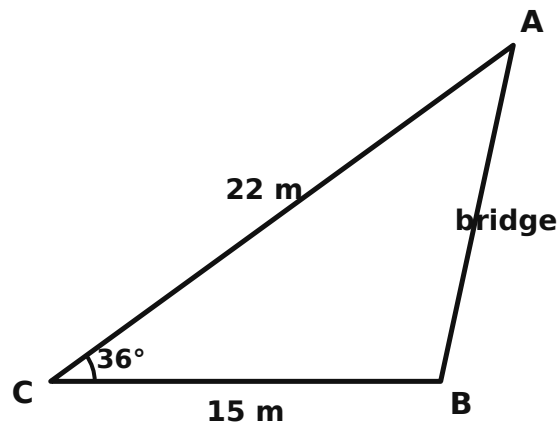
Question 5 - Choose the law [2 pts]

- Name the law to use first when given two sides and the included angle. (1 point)
- Name the law to use first when given two angles and a side. (1 point)

Question 6 - Right triangle? [2 pts]

Use the Law of Cosines to decide whether the triangle with sides 9, 12 and 16 has a right angle, an acute largest angle or an obtuse largest angle.

Question 7 - Bridge length [3 pts]



A bridge across a river.

Two points on opposite sides of a river are 15 meters and 22 meters from a surveyor, who measures an angle of 36° between them. Find the distance between the points to the nearest tenth of a meter.

Question 8 - Park area [2 pts]

A triangular park has two sides of 14 blocks and 20 blocks that meet at a 70° angle. Find the area in square blocks to the nearest tenth.

Question 9 - Check reasonableness [2 pts]

A student finds a triangle with angles 52° , 61° and 67° and sides 17.1, 18.2 and 20. Is it reasonable that the longest side faces the largest angle? Which side faces the 52° angle?