

Precalculus - Law of Sines and Law of Cosines - Test

Common Core G-SRT.D.10, G-SRT.D.11, G-SRT.C.8 · maths-pdf.fr/en/

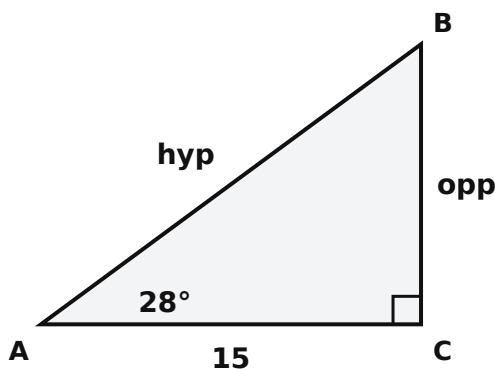
Name: _____ Class: _____ Date: ____/____/____

This 20-point test covers right triangles, the Laws of Sines and Cosines, the ambiguous case, area and a hiking problem (G-SRT.C.8, G-SRT.D.10, G-SRT.D.11). You have 45 minutes. Show your work.

About this test

- Grade: Precalculus
- Chapter: Law of Sines and Law of Cosines
- Standards: G-SRT.D.10, G-SRT.D.11, G-SRT.C.8
- Time: 45 minutes
- Total: 20 points

Question 1 - Right triangle [2 pts]



Right triangle with a 28 degree angle.

A right triangle has an acute angle of 28° and an adjacent side of 15. Find the hypotenuse and the opposite side to the nearest hundredth.

Question 2 - Law of Sines [2 pts]

In triangle ABC , $A = 45^\circ$, $B = 75^\circ$ and $a = 12$. Find b to the nearest hundredth.

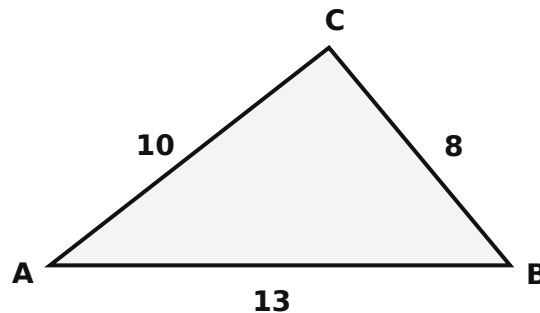
Question 3 - Ambiguous case [2 pts]

(a) How many triangles have $A = 30^\circ$, $a = 4$, $b = 10$? (b) For $A = 40^\circ$, $a = 8$, $b = 10$, find both possible values of B .

Question 4 - Law of Cosines [2 pts]

Find c if $a = 6$, $b = 9$ and $C = 60^\circ$, to the nearest hundredth.

Question 5 - Find three angles [3 pts]



Triangle with sides 8, 10 and 13.

Find the angles A , B and C of the triangle with $a = 8$, $b = 10$ and $c = 13$, to the nearest hundredth of a degree.

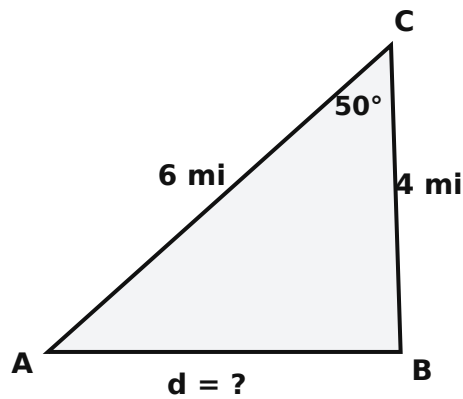
Question 6 - Area [2 pts]

Find the area of a triangle with sides 7 and 10 and included angle 50° .

Question 7 - Heron's formula [2 pts]

Use Heron's formula for the area of a triangle with sides 9, 10 and 17.

Question 8 - Hikers [3 pts]



Triangle formed by two hikers and the camp.

Maya and Noah leave camp. Maya hikes 4 mi east. Noah hikes 6 mi in a direction 50° from Maya's. (a) How far apart are they? (b) Find the area of the triangle formed. (c) Find the angle at Maya's position.

Question 9 - Largest angle [2 pts]

Find the largest angle of a triangle with sides 7, 9 and 12 to the nearest hundredth.