

Solving Right Triangles with Sine, Cosine and Tangent

Grade 10 – Geometry math · Test · Standards: G-SRT.C.6, G-SRT.C.7, G-SRT.C.8

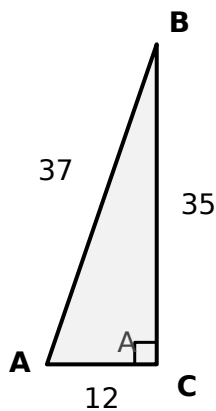
Name: _____ Date: _____ Class: _____

This 45-minute test has 8 questions worth 20 points. A calculator in degree mode is allowed. Show the equation you use for each side or angle and round as directed.

Standards: G-SRT.C.6, G-SRT.C.7, G-SRT.C.8 · **Level:** Grade 10 Geometry

Time: 45 minutes · 8 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Three Ratios (3 points)



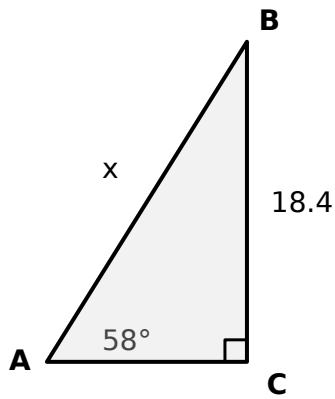
Triangle ABC.

- Write $\sin A$ as a fraction. (1 point)
- Write $\cos A$ as a fraction. (1 point)
- Write $\tan B$ as a fraction. (1 point)

Question 2 Complementary Equation (2 points)

Angles A and B are acute angles of a right triangle with $\sin(2x + 4)^\circ = \cos(3x - 4)^\circ$. Find x .

Question 3 Find a Side (2 points)



Triangle ABC.

Find x to the nearest tenth.

Question 4 Find an Angle (2 points)

A 25-foot plank stretches from the ground up to a stage, and its lower end is 17 feet out from the stage wall. Calculate the angle between the plank and the ground, rounded to tenths.

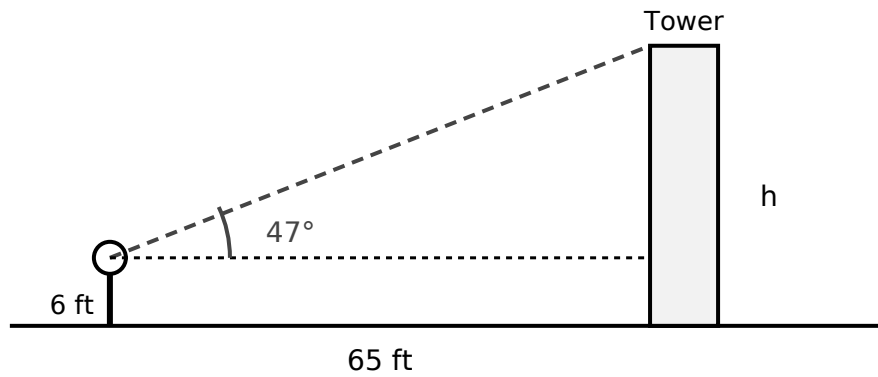
Question 5 Special Right Triangle (2 points)

The hypotenuse of a 30-60-90 triangle is 26 inches. Find both legs. Give exact answers.

Question 6 Solve the Triangle (3 points)

Solve right triangle ABC with the right angle at C, angle $A = 41^\circ$ and $AC = 18$. Find angle B, BC and AB to the nearest tenth.

Question 7 Height of a Building (3 points)



Looking up at a building.

Find the height of the building to the nearest foot.

Question 8 Two Buoys (3 points)

A drone 150 feet above a river is directly over the shore. It spots two buoys in a straight line from the shore, with angles of depression 36° and 21° . Find the distance between the buoys to the nearest foot.