

Math 2204 - Trig Questions

1. What is the area of the parallelogram with sides of length 20cm and 30cm and an angle of 135° ?
2. In $\triangle ABC$, angle A has measure 41° , side AB has length 8 cm, and side BC has length 12 cm. Determine, to the nearest degree, BOTH possible measures of angle C.
3. The big hand on the clock in your classroom is 15cm long and the little hand is 10 cm long. How far is the tip of the big hand from the tip of the little hand at 0800 ?
4. The Pont du Gard near Nîmes, France is an aquaduct, built by the Romans to carry water. The angles of depression to each end of the aquaduct, measured from a balloon, are 54° and 71° . The closest end of the aquaduct is 270m from the balloon. How long is the Pont du Gard ?
5. A non-vertical pole is supported by two wires. One wire, 5m long, makes an angle of 68° with the ground. On the side of the pole directly opposite the first wire is the other wire which is 6m long. What angle does the second wire make with the ground ?
6. In a triangle, two sides measure 8cm and 9cm and the contained angle measures 115° . Find the measure of the smallest angle.
7. In triangle ABC, $\angle A$ has measure 39° , side AB has length 10cm, while side BC has length 8cm. Determine, to the nearest degree, BOTH possible measures of $\angle C$.
8. Two supply ships leave a drilling platform at the same time travelling in different directions, such that the angle between their courses is 71° . Assuming they each continue to travel in a straight line, determine the distance between the two ships after 2 hours, if they travel at constant speeds of 20km/h and 30km/h, respectively.
9. The 'legs' of a triangular race course are 80m, 100m and 95m long. What is the measure of the angle between the two longest legs ?
10. Observers at J and K, 30 km apart, sight an airplane at angles of elevation of 40° and 75° , respectively. How far is the plane from each observer ? (assume the observers are on opposite sides of the airplane)
11. The area of $\triangle XYZ$ is 53 cm^2 . If $x = 15\text{cm}$ and $y = 10\text{cm}$, find the possible measures of $\angle Z$ to the nearest degree..
12. In $\triangle ABC$, $a = 6\text{cm}$, $b = 8 \text{ cm}$, and $c = 11\text{cm}$. Determine, to the nearest degree, the measure of the smallest angle.
13. The area of $\triangle XYZ$ is 45cm^2 . If $x = 18\text{cm}$ and $y = 10\text{cm}$, find the possible measures of $\angle Z$.