More Trigonometry Problems

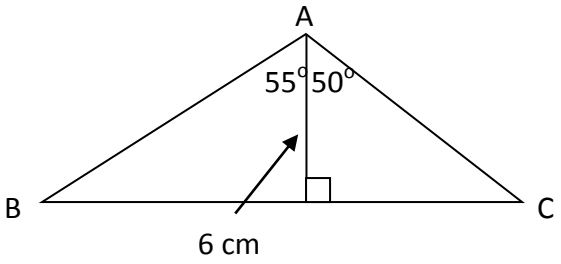
Name: _____

Date: _____ Block: _____

Show your work and draw a diagram for each question

1. When the foot of a ladder is 2 m from a wall, the angle formed by the ladder and the ground is 68°. How high up the wall does the ladder reach?

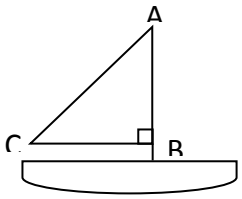
2. Calculate the length of BC to 1 decimal place.



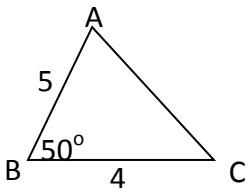
3. The roof of a house rises 1 m for every 4 m along its surface. Determine the angle of elevation of the roof, to the nearest tenth of a degree.

4. From a horizontal distance of 70.0 m, the angle of elevation to the top of a tree is 16°. Calculate the height of the tree to the nearest tenth of a metre.

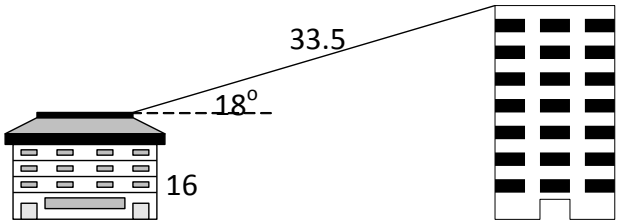
5. The mast *AB* is 2.8 m long and the boom *BC* is 2.5 m long on the sailboat pictured. Determine $\angle C$ to one decimal place.



6. Calculate the area of ΔABC to the nearest hundredth.



7. A tightrope water attaches a cable to the roofs of two adjacent buildings as shown. The cable is 33.5 m long. The angle of elevation of the cable is 18^{o}. The shorter building is 16.0 m high. What is the height of the taller building, to 1 decimal place?



8. Jimmy is standing 30 m away from a building and looks with an angle of elevation of 38^{o} to the top of the building. If Jimmy is 1.8 tall, how tall is the building? Draw a diagram, and round your answer to 1 decimal place.

9. A large tree is to be transported to a new location. The tree is held vertical by means of two guy wires of unequal length on opposite sides of the tree. One of the wires makes an angle of 48^{o} with the ground. The other wire is 12 m long and makes an angle of 56^{o} with the ground. Both wires are attached 3 m down from the top of the tree.

   a) Draw a diagram to illustrate the scenario

   b) Determine the height of the tree to one decimal place

   c) Determine the length of the other wire to the nearest tenth of a metre

   d) Determine to the nearest tenth of a metre, the horizontal distance at ground level between the two guy wires

10. Solve ΔXYZ, given $\angle X = 90°$, $XY = 32$ and $\angle Y = 51°$. Round answers to 1 decimal place.

11. Danny and Elaine are standing at points D and E respectively. The angles of elevation to a treetop at point T are as shown. If the tree is 50 m tall, how far apart are Danny and Elaine, to the nearest tenth of a metre?