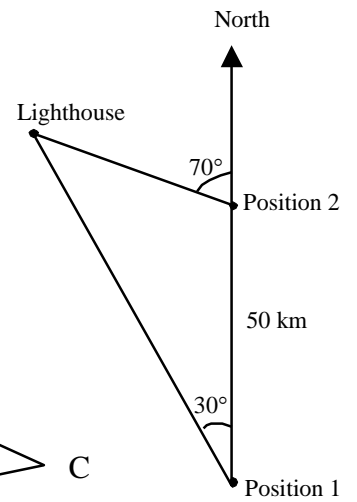


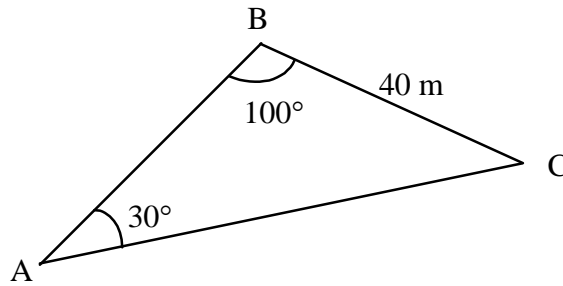
- 1 A ship is going north at 50 km/h. At position 1, the captain can see a lighthouse at a 30° angle on his left. One hour later, at position 2, the captain observes the same lighthouse, this time at a 70° angle on his left.

What is the distance between position 2 and the lighthouse ?



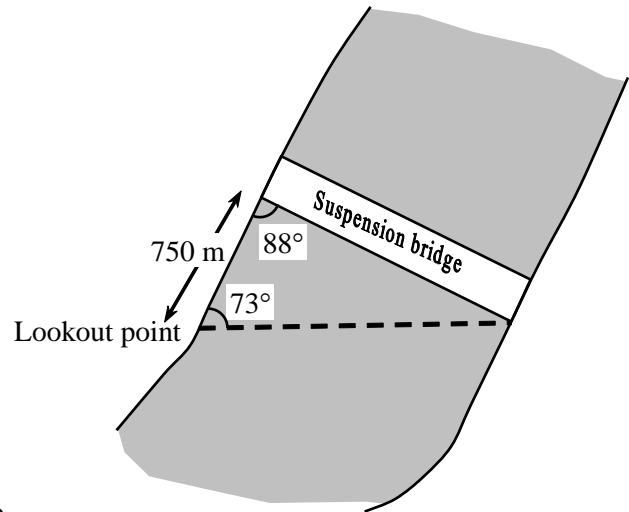
- 2 Three airplanes flying in formation at an air show form a triangle, as shown below.

What is the distance between plane A and plane C?



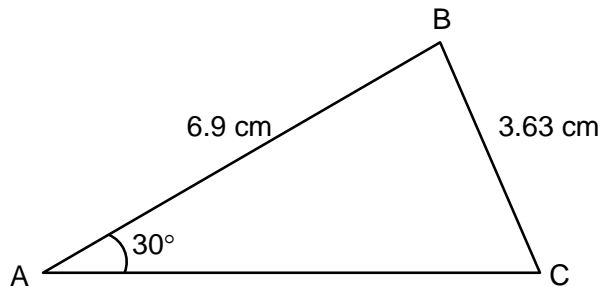
- 3 A suspension bridge is built across a river. A lookout point is 750 m from the bridge. Other measurements are indicated on the figure below.

What is the length of the suspension bridge?



- 4 Given $\triangle ABC$ below.

What is the degree measure of angle C?



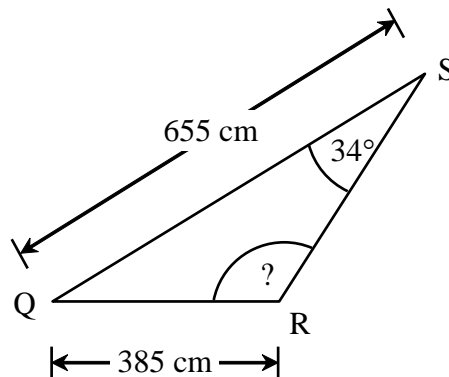
- 5 In triangle QRS on the right:

$$m \angle QSR = 34^\circ$$

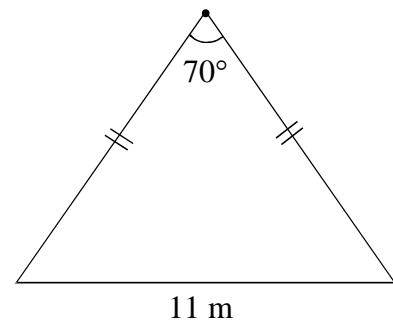
$$m \overline{QR} = 385 \text{ cm}$$

$$m \overline{QS} = 655 \text{ cm}$$

What is the measure of obtuse angle QRS?

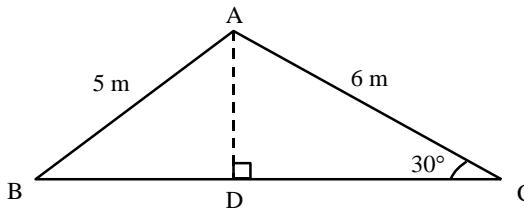


- 6 Kozy Korner is an A-frame ski chalet that was constructed last summer. It is 11 m wide and has two equal sides that meet at a 70° angle.



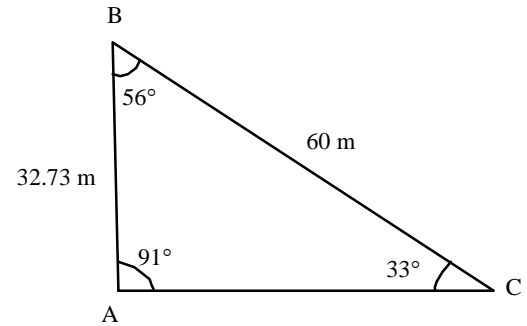
What is the length of one of the equal sides?

- 7 Given triangle ABC and its height AD:

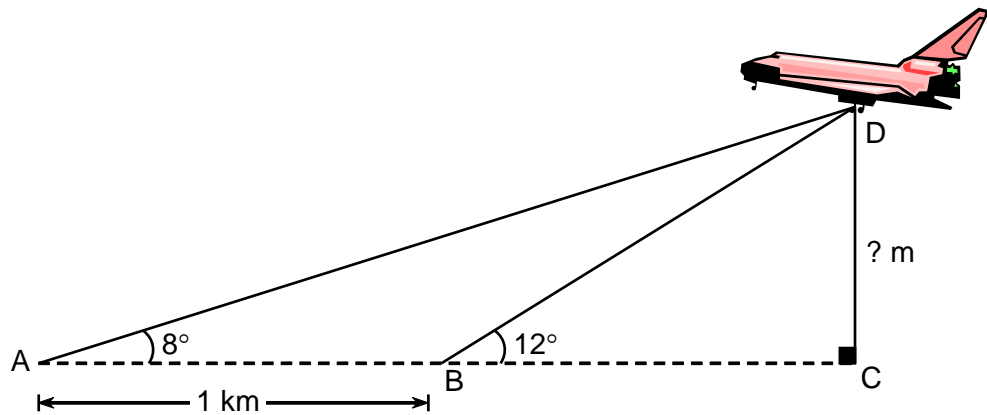


What is the measure of angle ABC?

- 8 A yard is to be fenced. The yard's shape and dimensions are illustrated in the adjacent diagram. The fencing costs \$7.95 per metre, taxes included. **How much will the fence cost?**

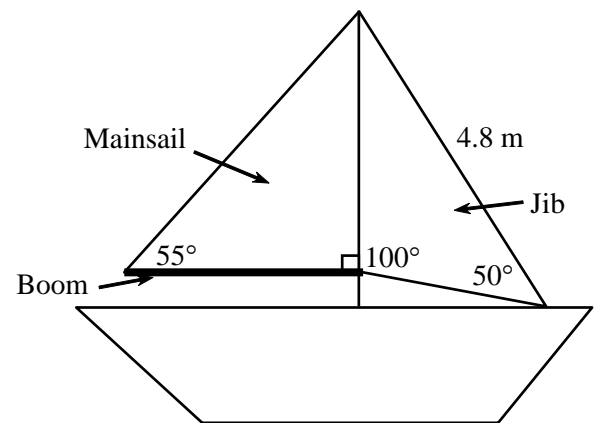


- 9 A space shuttle activated its landing gear just before landing. At that moment, the radar located at point A measured the angle of elevation of the shuttle to be 8° . The other radar, located at point B, measured the angle of elevation of the shuttle to be 12° . The radars are 1 km apart.



What is the height of the shuttle above the ground?

- 10 Several measures are given on the adjacent diagram of a sailboat. Along the bottom of the mainsail is a pole called the boom.



How many metres long is the boom of this sailboat?