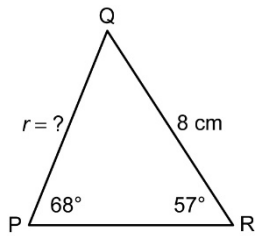## DAY 3 – The Sine Law
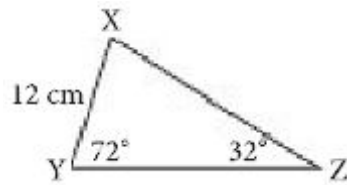
1. Find the measure of the unknown side.
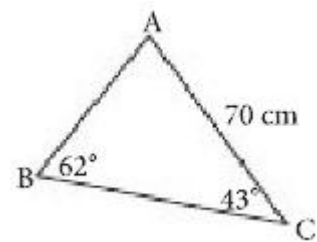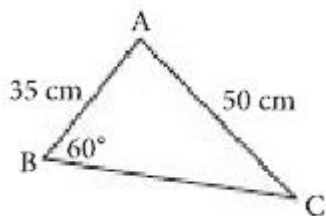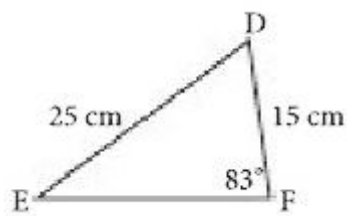
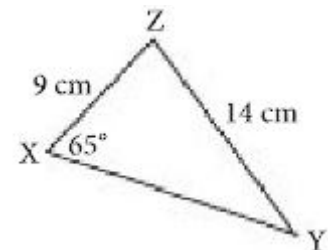a.

b. Find x
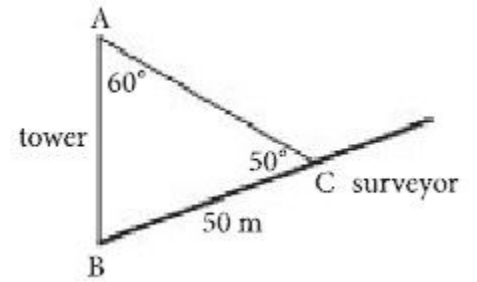

c. Find a

2. Find the measure of the unknown angle indicated.

a. Find ∠C

b. Find ∠E

c. Find ∠Y

3. A communication tower is built on the slope of a hill. A surveyor, 50 m uphill from the base of the tower, measures an angle of 50° between the ground and the top of the tower. The angle from the top of the tower to the surveyor is 60°. Calculate the height of the tower to the nearest metre.

4. A shed is 8 ft wide. One rafter makes an angle of 30° with the horizontal on one side of the roof. A rafter on the other side makes an angle of 70° with the horizontal. Calculate the length of the shorter rafter to the nearest foot.

5. Three islands - Fogo, Twillingate and Moreton's Harbour - form a triangular pattern in the ocean. Fogo and Twillingate are 15 nautical miles apart. The angle between Twillingate and Moreton's Harbour from Fogo is 45°. The angle between Moreton's Harbour and Fogo from Twillingate is 65°. How far is Moreton's Harbour from the other two islands to the nearest nautical mile?