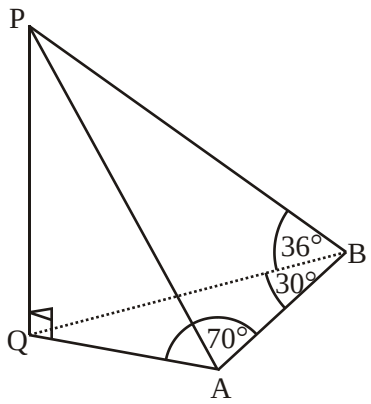
Review Qs

N00.S1.07

The diagram shows a vertical pole PQ, which is supported by two wires fixed to the horizontal ground at A and B.



BQ = 40 m

$P\hat{B}Q = 36°$

$B\hat{A}Q = 70°$

$A\hat{B}Q = 30°$

Find

(a) the height of the pole, PQ;

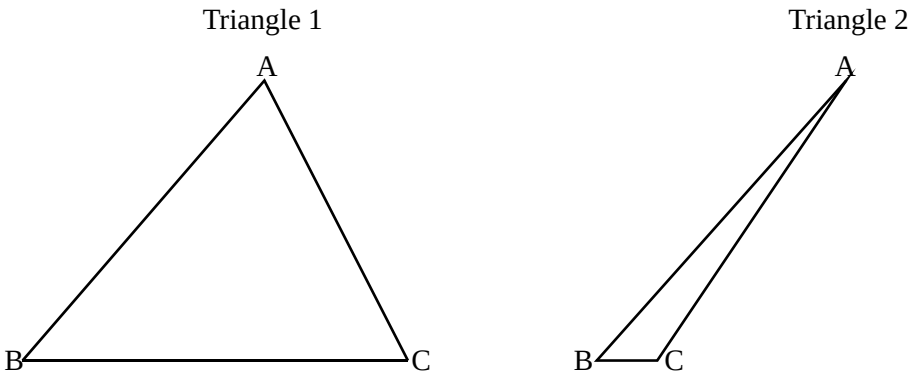
(b) the distance between A and B.

N01.S1.12

The diagrams below show two triangles both satisfying the conditions

AB = 20 cm, AC = 17 cm, $A\hat{B}C = 50°$.

Diagrams not to scale

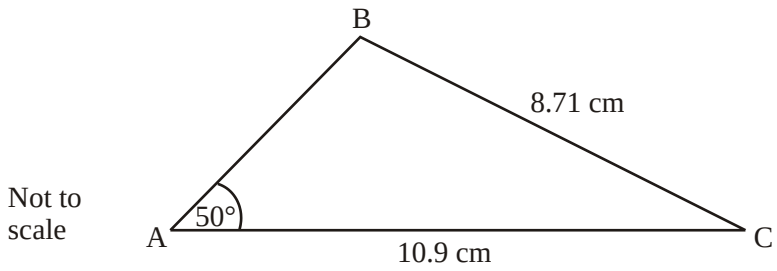


(a) Calculate the size of $A\hat{C}B$ in **Triangle 2.**

(b) Calculate the area of **Triangle 1**.

M06.H1.07

In the **obtuse-angled** triangle ABC, AC = 10.9 cm, BC = 8.71 cm and $B\hat{A}C = 50°$.



Find the area of triangle ABC.

M02.S1.06

Two boats A and B start moving from the same point P. Boat A moves in a straight line at 20 km h^{-1} and boat B moves in a straight line at 32 km h^{-1}. The angle between their paths is 70°.

Find the distance between the boats after 2.5 hours.

M04.s1.08

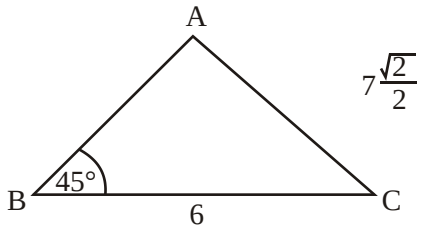
In a triangle ABC, AB = 4 cm, AC = 3 cm and the area of the triangle is 4.5 cm^2.

Find the **two** possible values of the angle $B\hat{A}C$.

M02.S2.01

The diagram shows a triangle ABC in which AC = $7\frac{\sqrt{2}}{2}$, BC = 6, $A\hat{B}C = 45°$.

Diagram not to scale



(a) Use the fact that sin 45° = $\frac{\sqrt{2}}{2}$ to show that sin $B\hat{A}C = \frac{6}{7}$.

(2)

The point D is on (AB), between A and B, such that sin $B\hat{D}C = \frac{6}{7}$.

(b) (i) Write down the value of $B\hat{D}C + B\hat{A}C$.

(ii) Calculate the angle BCD.

(iii) Find the length of [BD].

(6)

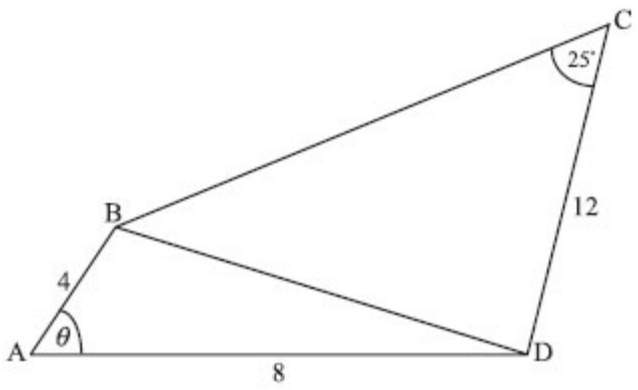
(c) Show that $\frac{\text{Area of } \Delta BDC}{\text{Area of } \Delta BAC} = \frac{BD}{BA}$.

(2)

(Total 10 marks)

M06.2z1.02

The diagram below shows a quadrilateral ABCD. AB = 4, AD = 8, CD =12, $B\hat{C}D = 25°$, $B\hat{A}D = \theta$.



(a) Use the cosine rule to show that BD = $4\sqrt{5-4\cos\theta}$.

(2)

Let $\theta = 40°$.

(b) (i) Find the value of sin $C\hat{B}D$.

(ii) Find the two possible values for the size of $C\hat{B}D$.

(iii) Given that $C\hat{B}D$ is an acute angle, find the perimeter of ABCD.

(12)

(c) Find the area of triangle ABD.

(2)

(Total 16 marks)