

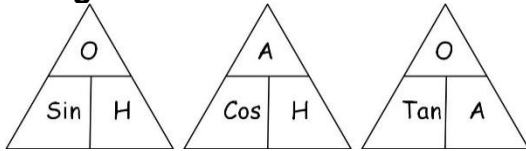


Pythagoras' Theorem and Trigonometry (H)

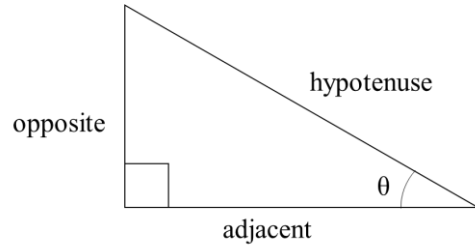
Intervention Booklet

Trigonometry – SOH CAH TOA

Things to remember:



1. Label your sides first, you'll need O, H and A...
2. Choose if you need SOH, CAH or TOA...
3. Cover the one you need with your thumb,
4. Write the equation,
5. Solve it, then you're done!



Questions:

1. The diagram shows triangle ABC .
 $BC = 8.5$ cm.
 Angle $ABC = 90^\circ$.
 Angle $ACB = 38^\circ$.
 Work out the length of AB .
 Give your answer correct to 3 significant figures.

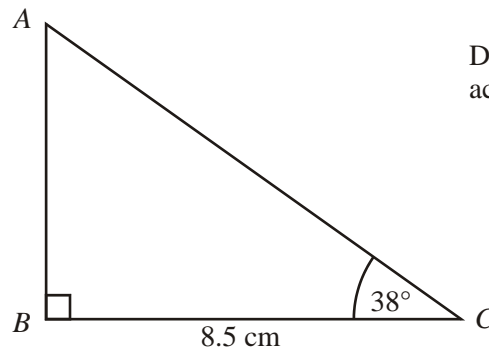


Diagram **NOT** accurately drawn

..... cm
(Total 3 marks)

2.

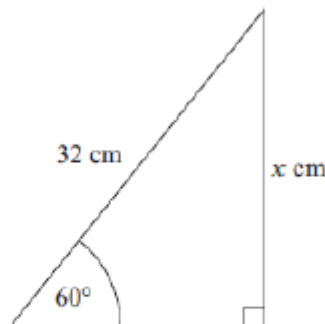


Diagram **NOT** accurately drawn

Calculate the value of x .
 Give your answer correct to 3 significant figures.

..... °
(Total 3 marks)

3. A lighthouse, L , is 3.2 km due West of a port, P .
A ship, S , is 1.9 km due North of the lighthouse, L .

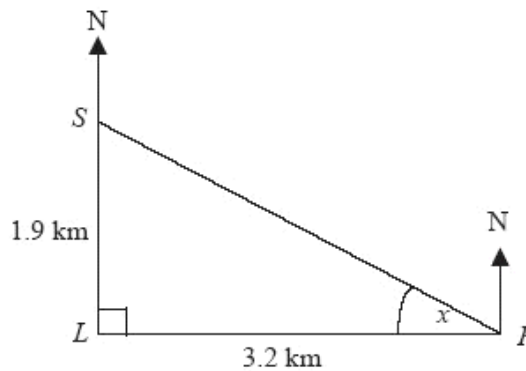


Diagram NOT accurately drawn

- (a) Calculate the size of the angle marked x .
Give your answer correct to 3 significant figures.

..... °
(3)

- (b) Find the bearing of the port, P , from the ship, S .
Give your answer correct to 3 significant figures.

..... °
(1)
(Total 4 marks)

4.

The diagram shows a quadrilateral $ABCD$.

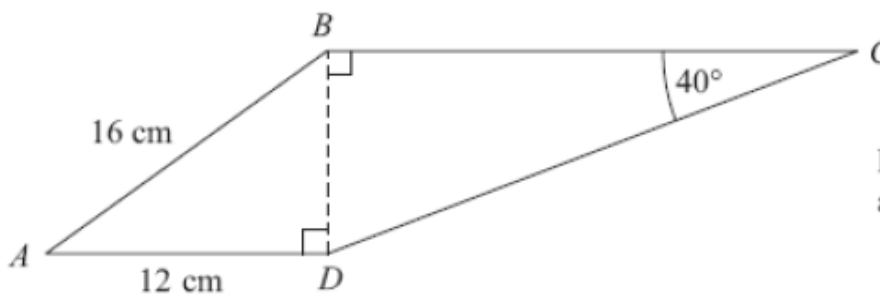


Diagram NOT accurately drawn

- $AB = 16$ cm.
 $AD = 12$ cm.
Angle $BCD = 40^\circ$.
Angle $ADB = \text{angle } CBD = 90^\circ$.

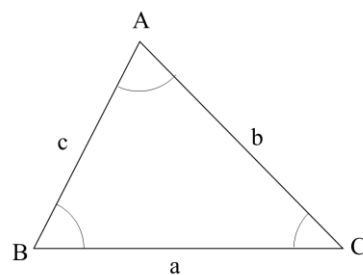
Calculate the length of CD .
Give your answer correct to 3 significant figures.

..... °
(Total 5 marks)

Sine and Cosine Rules

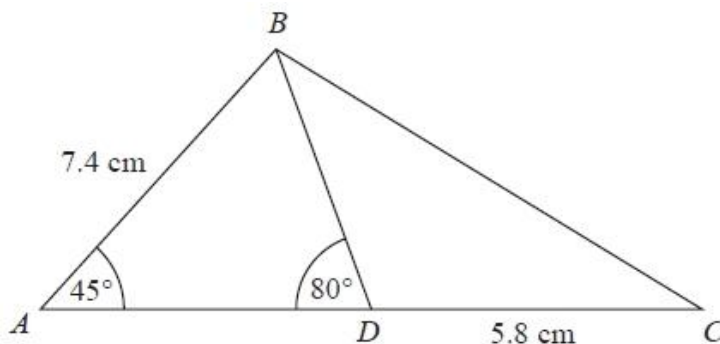
Things to remember:

- For any triangle ABC, $a^2 = b^2 + c^2 - 2bc \cos A$
- For any triangle ABC, $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
- For any triangle ABC, area = $\frac{1}{2} a b \sin C$



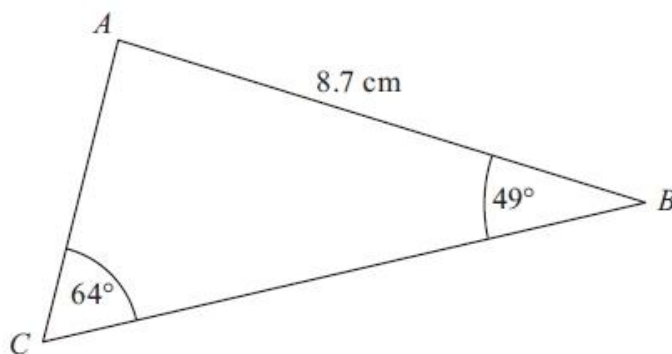
Questions:

1. Diagram **NOT** accurately drawn
 ABC is a triangle.
 D is a point on AC.
 Angle BAD = 45°
 Angle ADB = 80°
 AB = 7.4 cm
 DC = 5.8 cm
 Work out the length of BC.
 Give your answer correct to 3 significant figures.



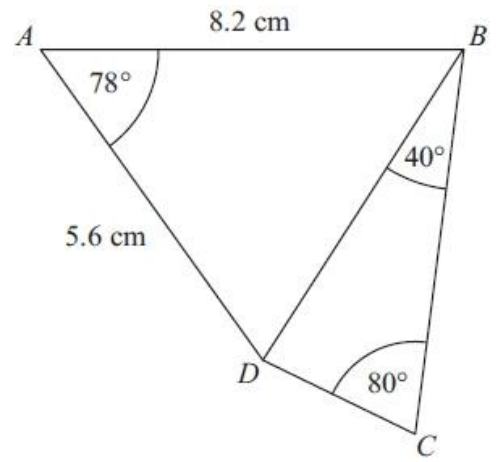
..... cm
(Total for question = 5 marks)

2. Diagram **NOT** accurately drawn
 ABC is a triangle.
 AB = 8.7 cm.
 Angle ABC = 49° .
 Angle ACB = 64° .
 Calculate the area of triangle ABC.
 Give your answer correct to 3 significant figures.



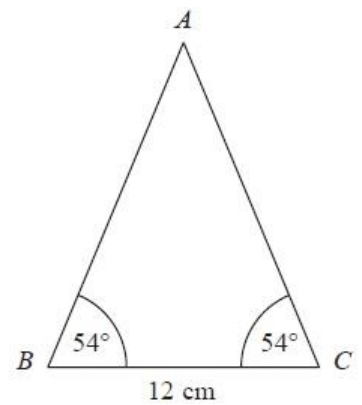
..... cm²
(Total for Question is 5 marks)

3. $ABCD$ is a quadrilateral.
 Diagram **NOT** accurately drawn
 Work out the length of DC .
 Give your answer correct to 3 significant figures.



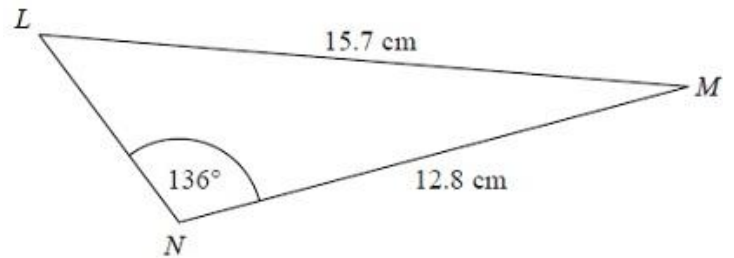
..... cm
 (Total for Question is 6 marks)

4. Diagram **NOT** accurately drawn
 ABC is an isosceles triangle.
 Work out the area of the triangle.
 Give your answer correct to 3 significant figures.

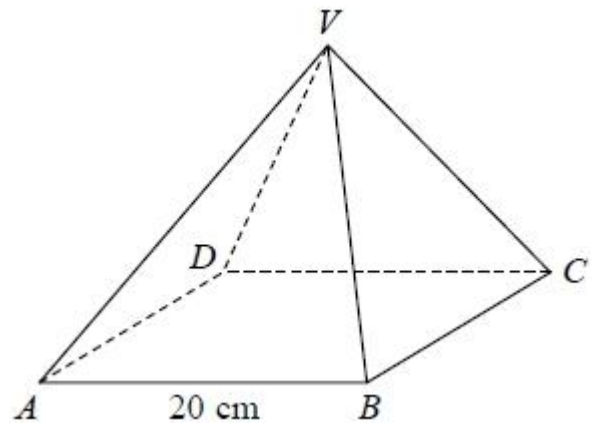


..... cm^2
 (Total for Question is 4 marks)

5. Diagram **NOT** accurately drawn
 The diagram shows triangle LMN .
 Calculate the length of LN .
 Give your answer correct to 3
 significant figures.



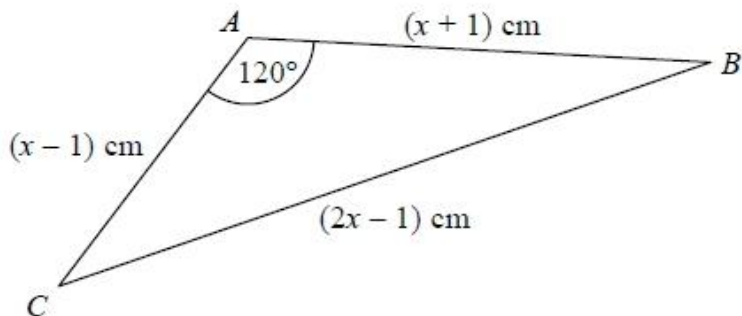
6. $VABCD$ is a solid pyramid.
 $ABCD$ is a square of side 20 cm .
 The angle between any sloping edge and the
 plane $ABCD$ is 55° .
 Calculate the surface area of the pyramid.
 Give your answer correct to 2 significant figures.



..... cm
 (Total for Question is 5 marks)

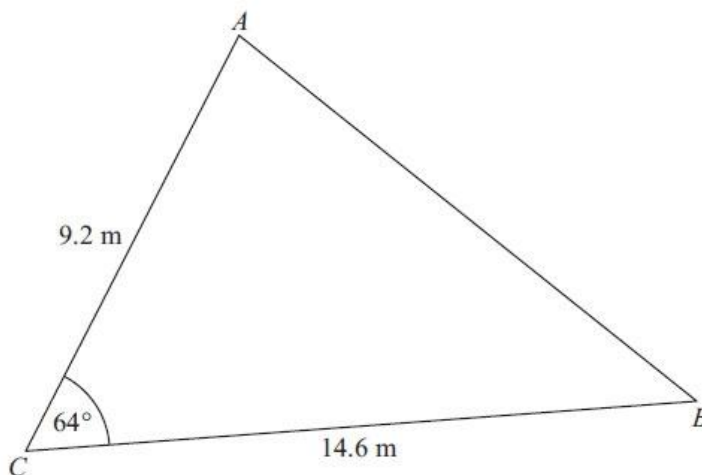
..... cm^2
 (Total for question = 5 marks)

7. The diagram shows triangle ABC .
The area of triangle ABC is $k\sqrt{3}$ cm^2 .
Find the exact value of k .



$k = \dots\dots\dots$
(Total for question = 7 marks)

8. Diagram **NOT** accurately drawn
 $AC = 9.2$ m
 $BC = 14.6$ m
Angle $ACB = 64^\circ$
(a) Calculate the area of the triangle ABC .
Give your answer correct to 3 significant figures.



$\dots\dots\dots \text{m}^2$
(2)

- (b) Calculate the length of AB .
Give your answer correct to 3 significant figures.

$\dots\dots\dots$
(3)
(Total for Question is 5 marks)