

Trig (Triangles)

We use the following Trig formulas below dealing with triangles.

Sine Rule

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

Cosine Rule

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Area of a Triangle

$$\text{Area of a Triangle} = \frac{1}{2}absinc$$

Read through the following Theory Guides again (in the N5 Maths Study Pack):

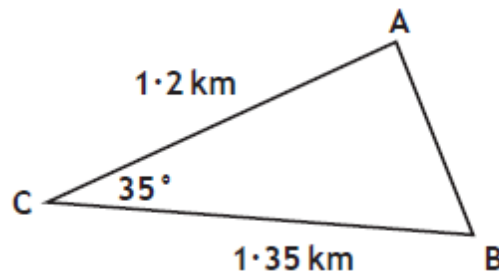
- Theory – Area of a Triangle
- Theory – Cosine Rule
- Theory – Sine Rule

Now try the exam questions over the page and think hard before deciding which of the above formula to use.

Step-by-step worked solutions to these questions in the N5 Maths Study Pack

2015 N5 Past Paper P2, Q3

1. Triangle ABC is shown below



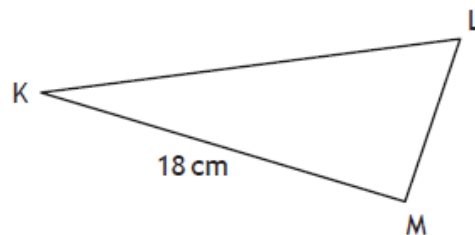
Calculate the length AB.

(3 marks)

2014 N5 Past Paper P1, Q5

2. In triangle KLM

- $KM = 18$ centimetres
- $\sin K = 0.4$
- $\sin L = 0.9$

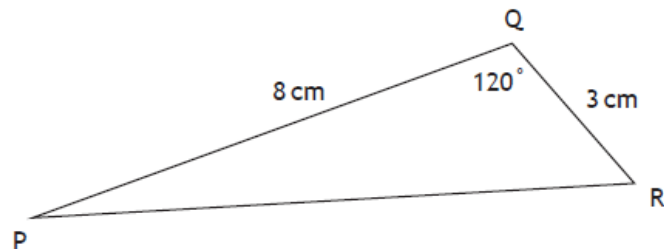


Calculate the length of LM .

(3 marks)

2013 Specimen, P2, Q5

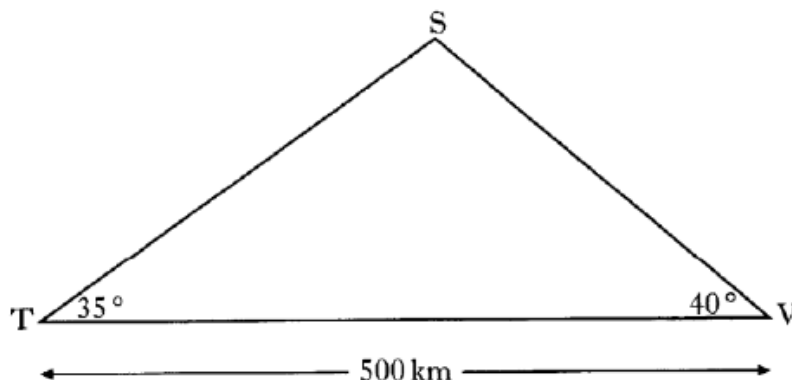
3. In triangle PQR, PQ = 8 centimetres, QR = 3 centimetres and angle PQR = 120° .



Calculate the length of PR. (3 marks)

Practice Paper B, P2, Q9

4. A TV signal is sent from a transmitter (T) via a satellite (S) to a village (V), as shown in the diagram. The village is 500 kilometers from the transmitter.

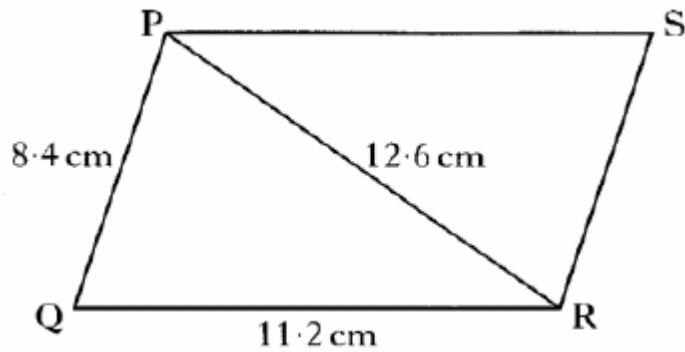


The signal is sent out at an angle of 35° and is received in the village at an angle of 40° .

Calculate the height of the satellite above the ground. (5 marks)

Practice Paper C, P2, Q10

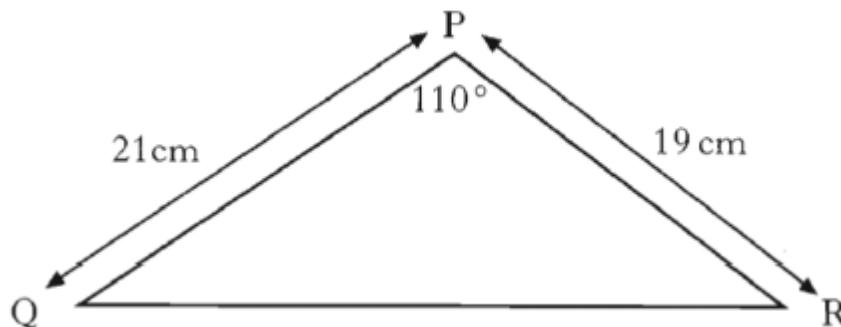
5. The diagram shows a parallelogram, PQRS.



- (a) Calculate the size of angle PQR. Do not use a scale drawing. (3 marks)
- (b) Calculate the area of the parallelogram. (3 marks)

Practice Paper E, P2, Q2

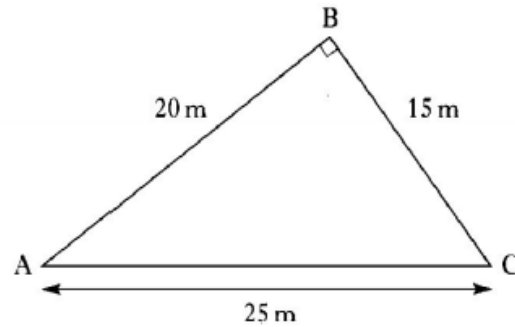
6.



Calculate the area of triangle PQR. (4 marks)

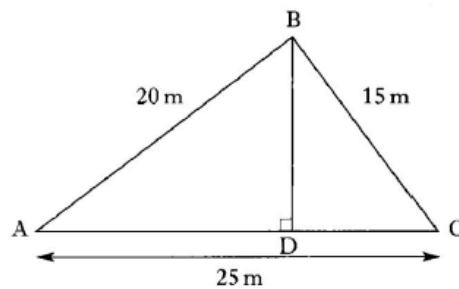
Practice Paper F, P2, Q13

7. Triangle ABC is right-angled at B. The dimensions are shown.



(a) Calculate the area of triangle ABC. (1 mark)

BD, the height of triangle ACB is drawn as shown.



(b) Use your answer to part (a) to calculate the height BD. (3 marks)