

S4

Space exam review

1

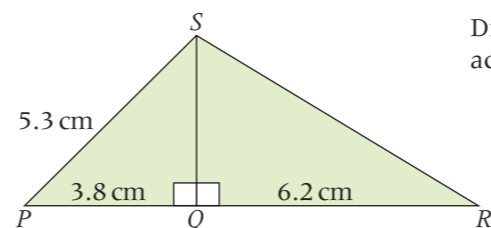


Diagram **NOT** accurately drawn

Angle $PQS = 90^\circ$.
Angle $RQS = 90^\circ$.
 $PS = 5.3$ cm, $PQ = 3.8$ cm, $QR = 6.2$ cm.

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

..... cm

(Total 5 marks)

2 a The diagram shows triangle PQR .

$PQ = 4$ cm.
 $PR = 8$ cm.
Angle $PQR = 90^\circ$.

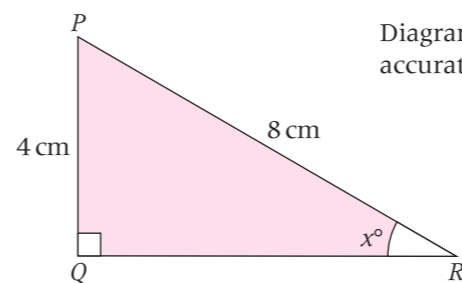


Diagram **NOT** accurately drawn

Calculate the value of x .

$x = \dots\dots\dots$

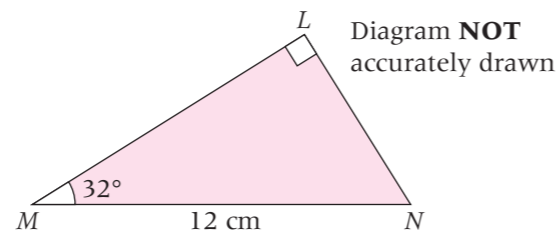
(3)

b The diagram shows triangle LMN .

$MN = 12$ cm.

Angle $LMN = 32^\circ$.

Angle $MLN = 90^\circ$.



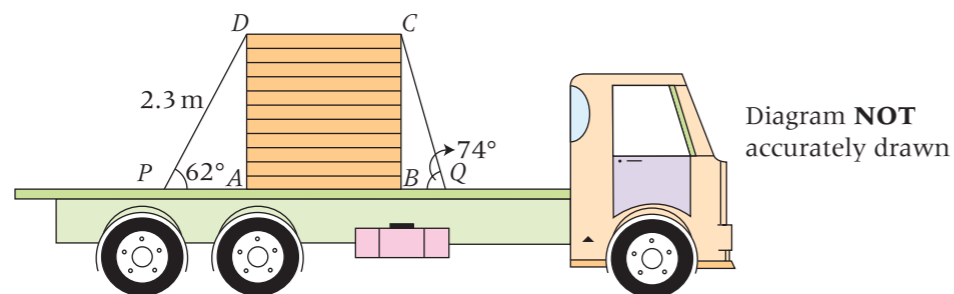
Calculate the length of ML .
Give your answer correct to 3 significant figures.

..... cm

(3)

(Total 6 marks)

3



The diagram shows a side view of a rectangular box $ABCD$ on a lorry.
The box is held down on the horizontal flat surface of the lorry by a rope.
The rope passes over the box and is tied at two points, P and Q , on the flat surface.

$DP = 2.3$ m.

Angle $APD = 62^\circ$.

Angle $BQC = 74^\circ$.

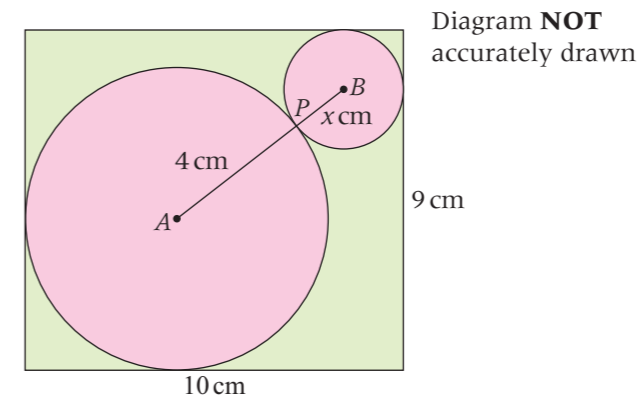
Calculate the length of BQ .

Give your answer correct to 3 significant figures.

..... m

(Total 5 marks)

4



The diagram shows one disc with centre A and radius 4 cm and another disc with centre B and radius x cm.

The two discs fit exactly into a rectangular box 10 cm long and 9 cm wide.

The two discs touch at P .

APB is a straight line.

a Use Pythagoras's theorem to show that $x^2 - 30x + 45 = 0$

(4)

b Find the value of x .

Give your value correct to 3 significant figures.

$x =$

(3)

(Total 7 marks)

5

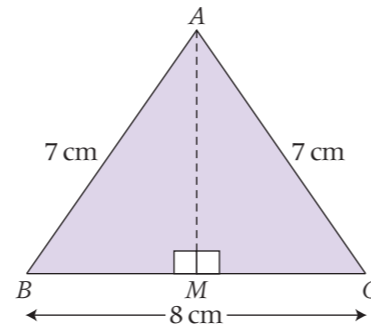


Diagram **NOT** accurately drawn

Work out the length, in centimetres, of AM .
Give your answer correct to 2 decimal places.

..... cm

(Total 3 marks)

6

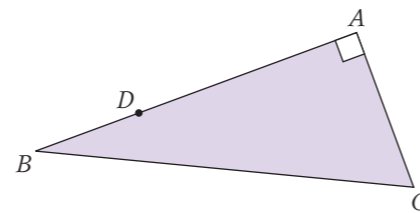


Diagram **NOT** accurately drawn

ABC is a right angled triangle.
 D is the point on AB such that $AD = 3DB$.
 $AC = 2DB$ and angle $A = 90^\circ$.

Show that $\sin C = \frac{k}{\sqrt{20}}$, where k is an integer.

Write down the value of k .

$k = \dots\dots\dots$

(Total 4 marks)