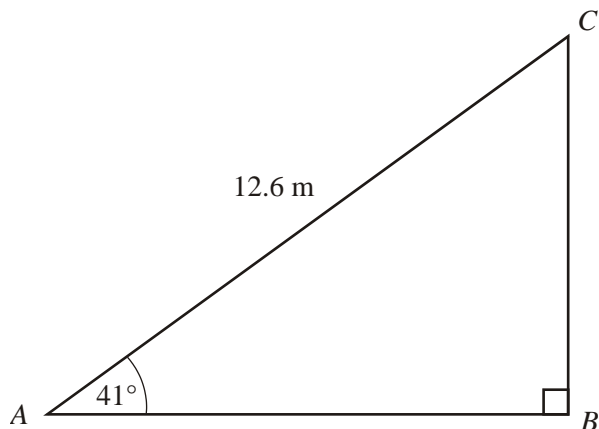


# Basic Trigonometry

31 marks

1.



The diagram shows a right-angled triangle  $ABC$ .  
 $AC = 12.6$  m.  
 Angle  $CAB = 41^\circ$   
 Angle  $ABC = 90^\circ$

Find the length of the side  $AB$ . Give your answer correct to 3 significant figures.

..... m  
 (Total 3 marks)

2.

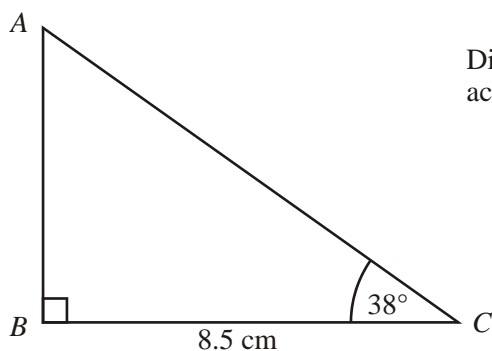


Diagram **NOT**  
 accurately drawn

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.

..... cm  
 (Total 3 marks)

3.

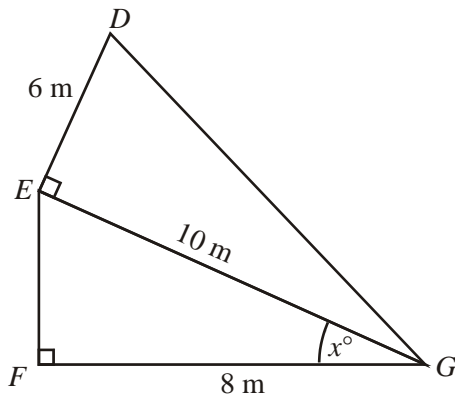


Diagram **NOT** accurately drawn

$DE = 6\text{ m}$ .  
 $EG = 10\text{ m}$ .  
 $FG = 8\text{ m}$ .  
 Angle  $DEG = 90^\circ$ . Angle  $EFG = 90^\circ$ .

- (a) Calculate the length of  $DG$ .  
 Give your answer correct to 3 significant figures.

..... m

(3)

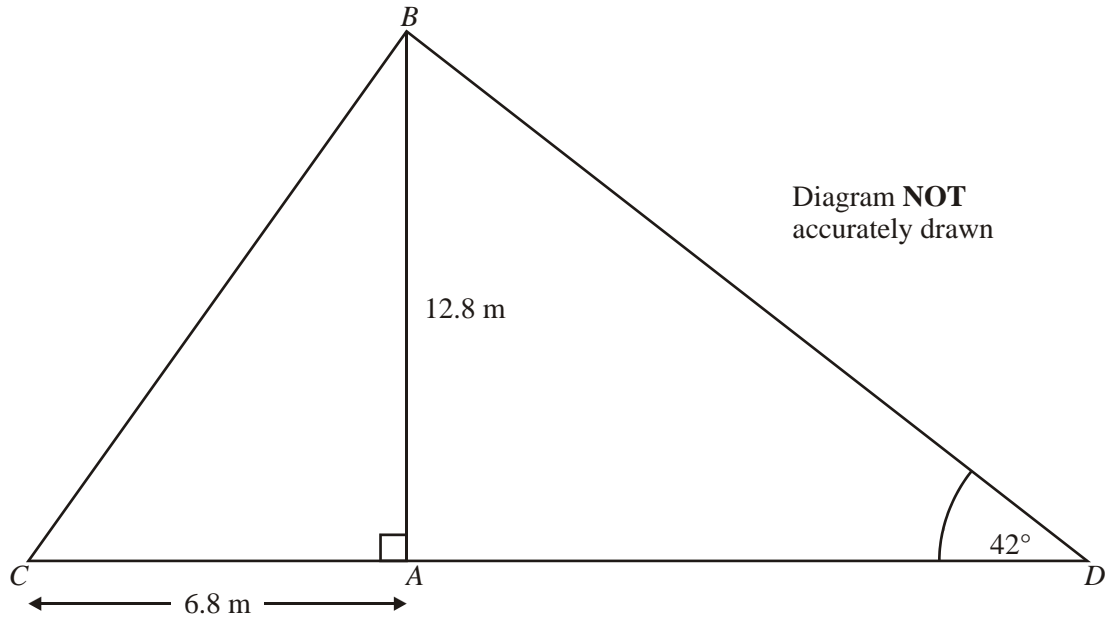
- (b) Calculate the size of the angle marked  $x^\circ$ .  
 Give your answer correct to one decimal place.

..... $^\circ$

(3)

(Total 6 marks)

4. The diagram represents a vertical flagpole,  $AB$ .  
The flagpole is supported by two ropes,  $BC$  and  $BD$ , fixed to the horizontal ground at  $C$  and at  $D$ .



$AB = 12.8$  m.  
 $AC = 6.8$  m.  
 Angle  $BDA = 42^\circ$ .

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

.....<sup>o</sup> (3)

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

..... m (3)  
**(Total 6 marks)**

5. 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,  $L$ .

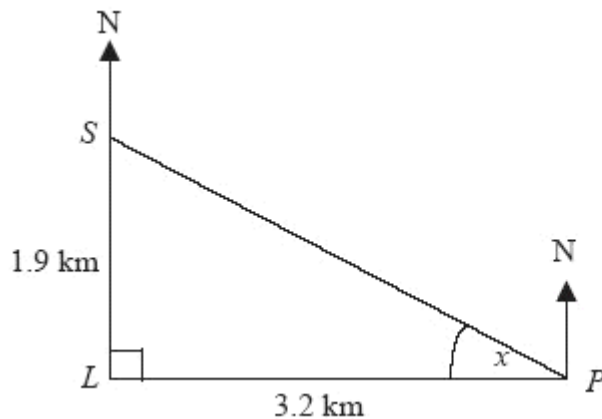


Diagram NOT accurately drawn

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

$x = \dots\dots\dots^\circ$  (3)

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

$\dots\dots\dots^\circ$  (1)  
(Total 4 marks)

- 6.

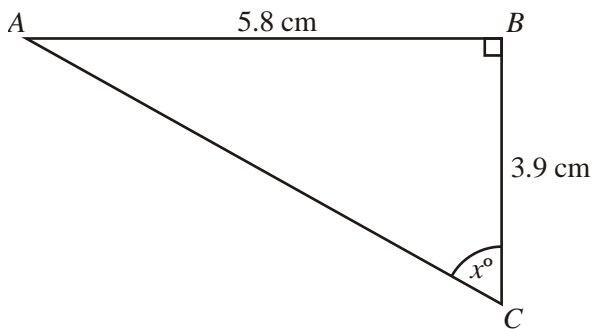


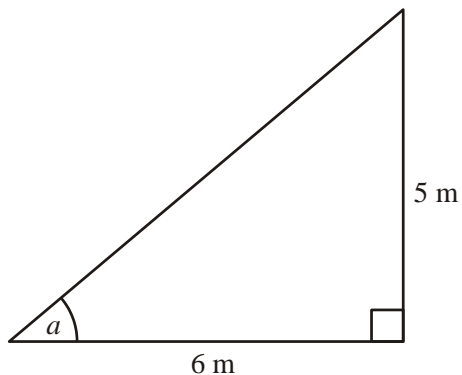
Diagram NOT accurately drawn

Triangle  $ABC$  is right-angled at  $B$ .  
 $AB$  is 5.8 m and  $BC$  is 3.9 m  
Calculate the size of the angle marked  $x^\circ$ .

$\dots\dots\dots^\circ$  (Total 3 marks)

7. (a) Calculate the size of angle  $a$  in this right-angled triangle.  
Give your answer correct to 3 significant figures.

Diagram **NOT** accurately drawn

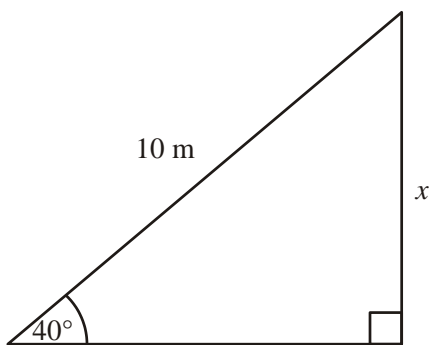


.....°

(3)

- (b) Calculate the length of the side  $x$  in this right-angled triangle.  
Give your answer correct to 3 significant figures.

Diagram **NOT** accurately drawn



..... cm

(3)

(Total 6 marks)