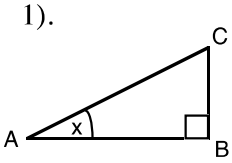
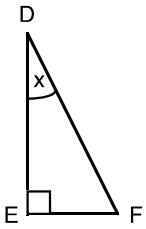
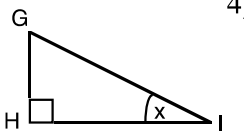
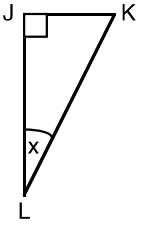
Trigonometry 1.

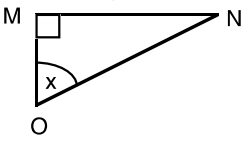
A. Name all the sides from the given angle, x°.

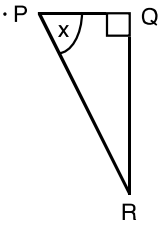
1). 

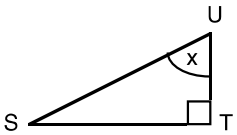
2). 

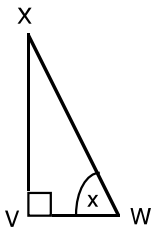
3). 

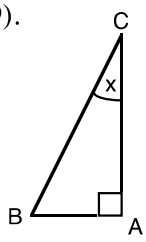
4). 

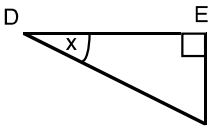
5). 

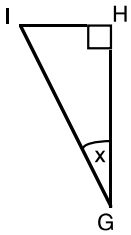
6). 

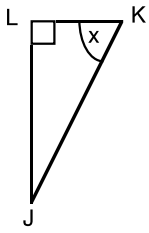
7). 

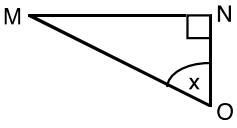
8). 

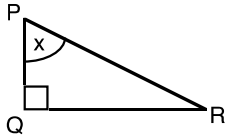
9). 

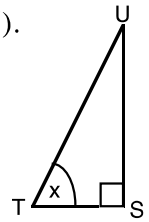
10). 

11). 

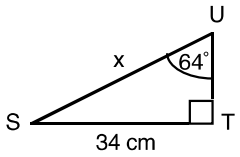
12). 

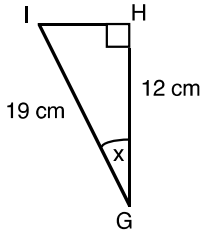
13). 

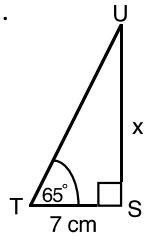
14). 

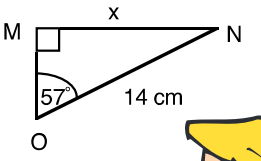
15). 

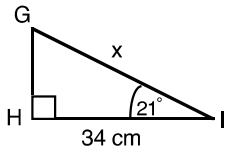
B. For each of the following questions look at the information given and the information you have to find. Which of the trigometrical ratios would you use to solve it for x?
Do not try to solve the questions.

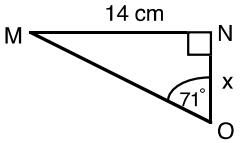
1). 

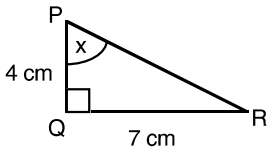
2). 

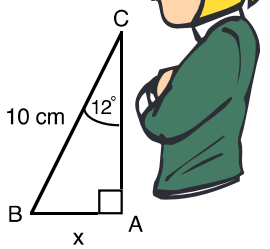
3). 

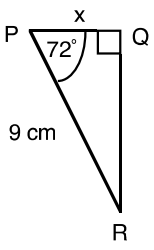
4). 

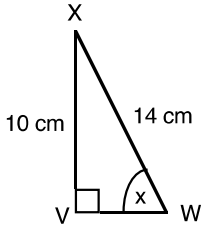
5). 

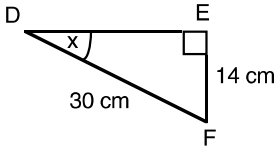
6). 

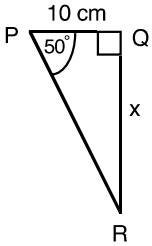
7). 

8). 

9). 

10). 

11). 

12). 

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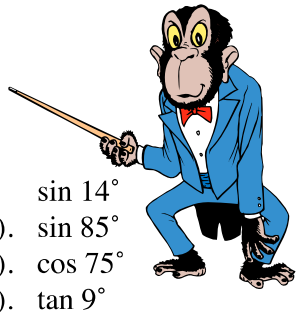


C. Find the value of the following to 3 d.p..

1).	sin 10°	2).	cos 45°	3).	tan 45°	4).	tan 62°	5).	sin 14°
6).	sin 69°	7).	tan 14°	8).	cos 32°	9).	cos 5°	10).	sin 85°
11).	tan 68°	12).	sin 55°	13).	tan 4°	14).	sin 15°	15).	cos 75°
16).	sin 90°	17).	cos 90°	18).	cos 12°	19).	tan 78°	20).	tan 9°

D. Calculate the following to 2 d.p..

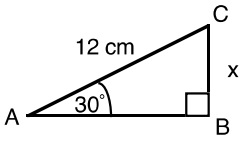
1).	5 tan 45°	2).	4 sin 30°	3).	8 cos 60°	4).	6 sin 43°	5).	9 cos 18°
6).	15 tan 83°	7).	14 cos 25°	8).	24 cos 72°	9).	31 sin 45°	10).	20 cos 34°
11).	5 cos 60°	12).	56 sin 15°	13).	30 tan 45°	14).	19 sin 82°	15).	14 tan 45°
16).	17 tan 60°	17).	8 cos 0°	18).	45 tan 28°	19).	61 sin 90°	20).	28 tan 50°

E. Calculate the following to 2 d.p..

1).	$\frac{6}{\sin 34^\circ}$	2).	$\frac{12}{\cos 83^\circ}$	3).	$\frac{4}{\tan 16^\circ}$	4).	$\frac{23}{\tan 45^\circ}$	5).	$\frac{31}{\sin 30^\circ}$
6).	$\frac{38}{\cos 18^\circ}$	7).	$\frac{48}{\tan 80^\circ}$	8).	$\frac{8}{\sin 54^\circ}$	9).	$\frac{18}{\sin 15^\circ}$	10).	$\frac{5}{\cos 51^\circ}$
11).	$\frac{25}{\tan 52^\circ}$	12).	$\frac{62}{\cos 71^\circ}$	13).	$\frac{82}{\sin 68^\circ}$	14).	$\frac{16}{\cos 8^\circ}$	15).	$\frac{2}{\sin 12^\circ}$
16).	$\frac{6}{\sin 75^\circ}$	17).	$\frac{18}{\tan 45^\circ}$	18).	$\frac{48}{\cos 50^\circ}$	19).	$\frac{37}{\tan 12^\circ}$	20).	$\frac{52}{\tan 84^\circ}$

F. Find the length of the side marked x, leave all answers to 1 decimal place.
Diagrams not to scale.

1).



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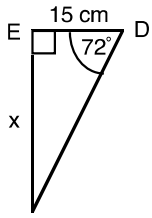

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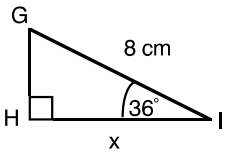

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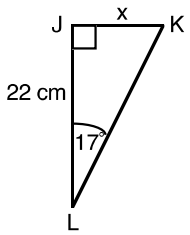

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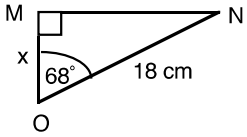

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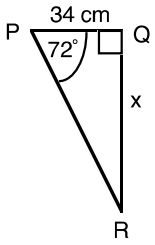

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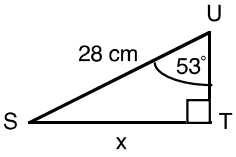

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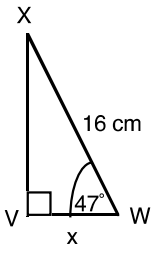

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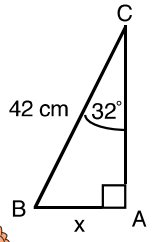

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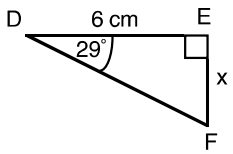

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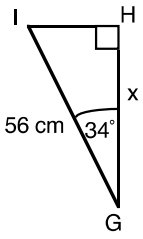

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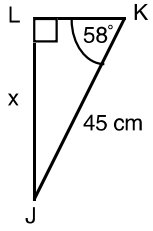

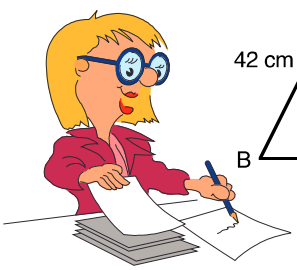

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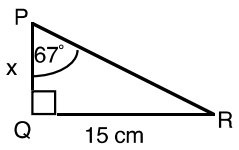
Trigonometry 2.

A. Find the length of the side marked x, leave all answers to 1 decimal place. Diagrams not to scale.

1).



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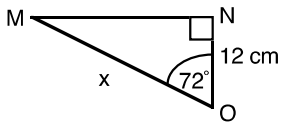

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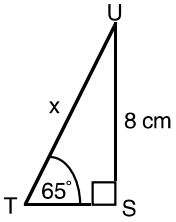

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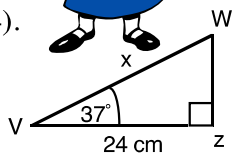

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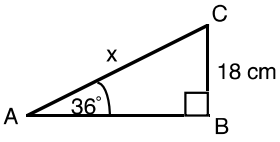

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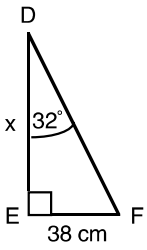

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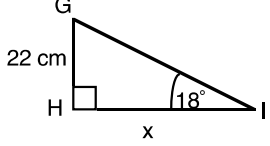

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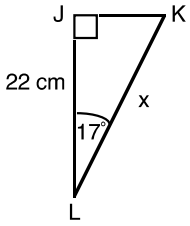

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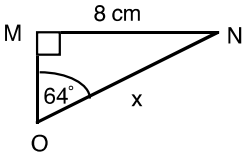

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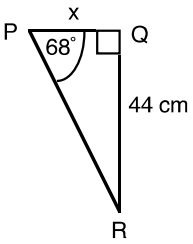
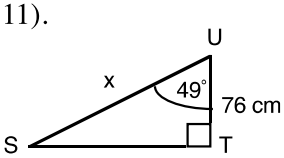


11).



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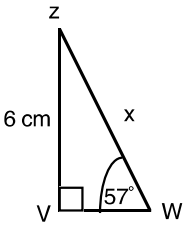
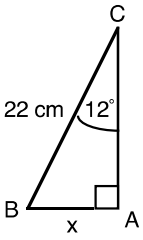


B. Find the length of the side marked x, leave all answers to 1 decimal place. Diagrams not to scale.

1).



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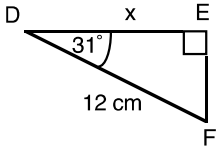

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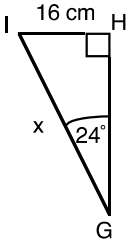

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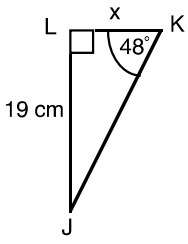

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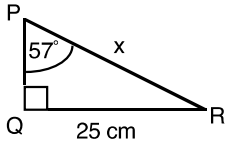

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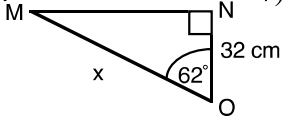

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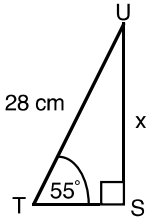

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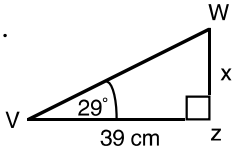

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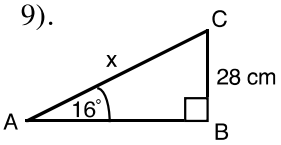

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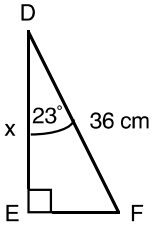

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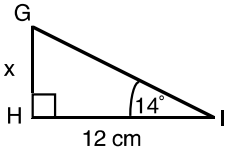

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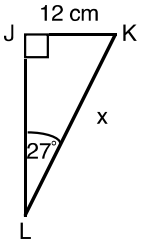

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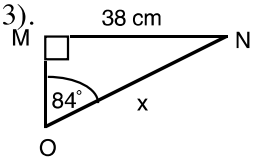

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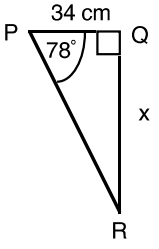

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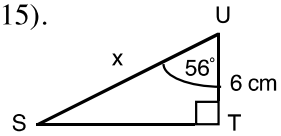

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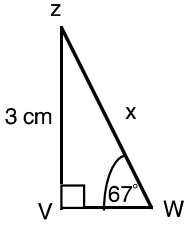

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C). Find the angles marked x.

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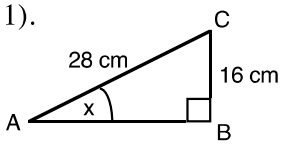

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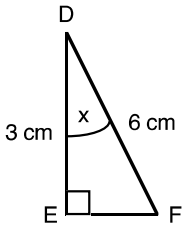

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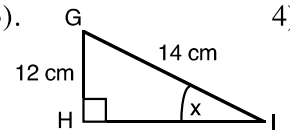

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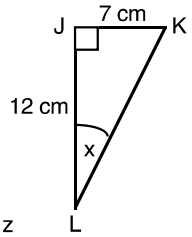

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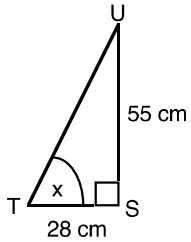

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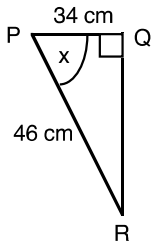

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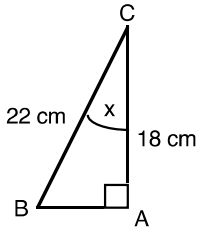

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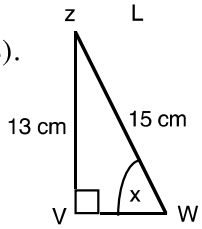

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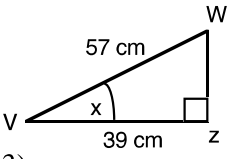

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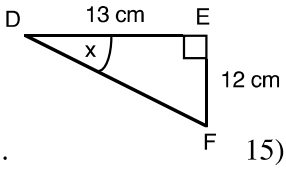

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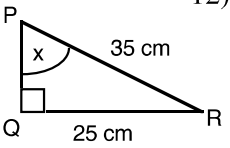

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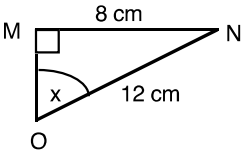

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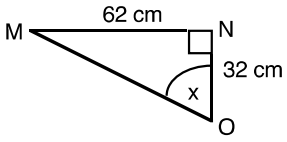

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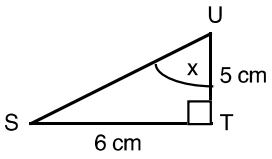

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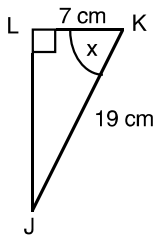

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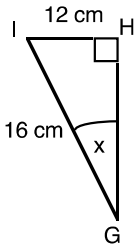

D). In the following triangles find **all the missing angles and sides.**

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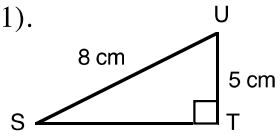

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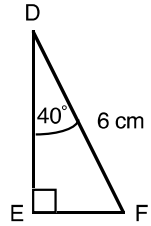

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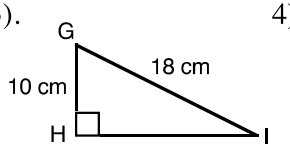

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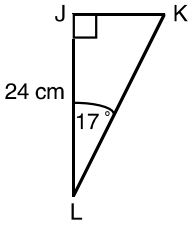

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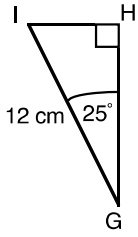

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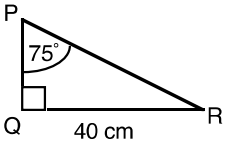

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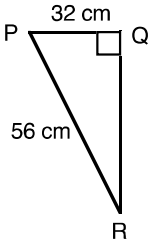

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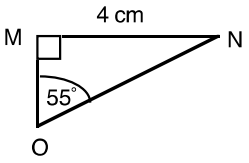

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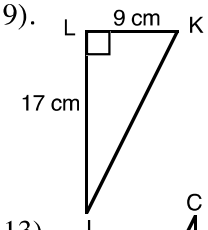

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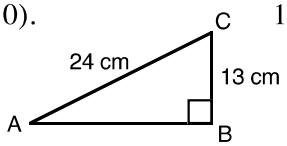

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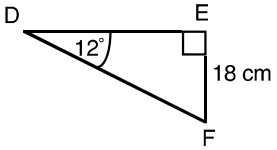

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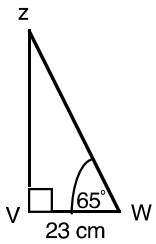

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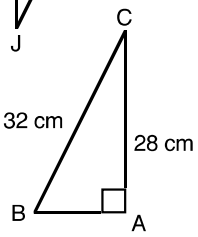

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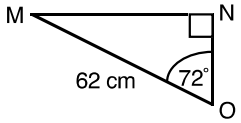

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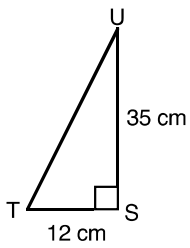

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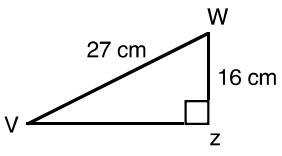

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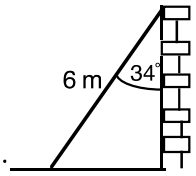
Trigonometry Worded Questions 1.

1). A ladder that is 6 metres long is placed against a wall.
It makes an angle of 34˚ with the wall. Find

a). how high up the wall it reaches,

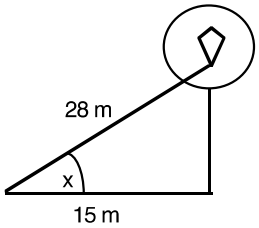
b). the distance the base of the ladder is away from the wall.



2). A boy gets his kite stuck in a tree. He knows that the amount of string let out is 28 metres and the distance he is from the tree is 15 metres. Find

a). the angle, x, that the string makes with the ground,

b). how high up the tree the kite is.



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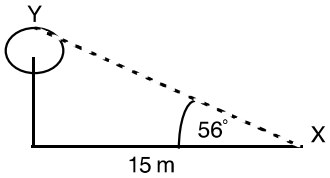
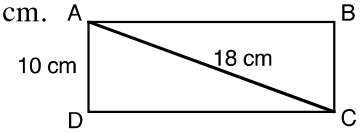


Find the height of the tree and the distance XY.

4). ABCD is a rectangular sheet of paper. AC = 18 cm and AD = 10 cm.
Calculate a). the angle BAC,

b). the length of AB, in cm, to 1 d.p..



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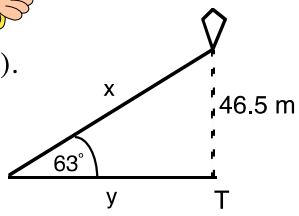


A boy flies a kite. The string makes an angle of 63˚ to the ground.
The kite is 46.5 metres vertically above a point T. Find

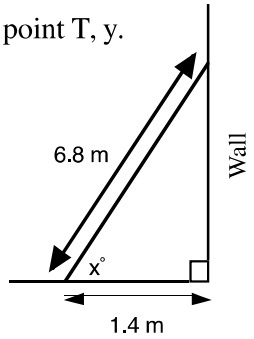
a). the length of string needed, x,

b). the distance from the boy to the point T, y.

6). A ladder, 6.8 m long, leans against the vertical wall of a house.
The foot of the ladder is 1.4 m from the wall on horizontal ground.

a). Calculate, to the nearest degree, the size of the angle, x˚, which the ladder makes with the ground.

b). Calculate the height of the top of the ladder above the ground to the nearest cm.



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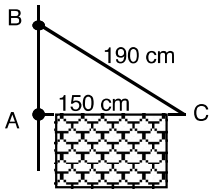


Two metal rods are hinged at C. A and B are attached to a vertical wall. AC is horizontal.

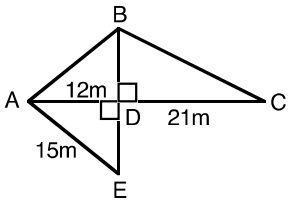
a). Calculate AB (to 2 s.f.).

b). Find ∠BCA to the nearest degree.

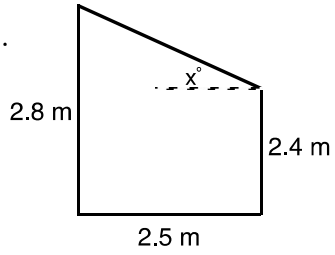
c). Find ∠ABC to the nearest degree.

8). In the diagram BD = DE.

Find a). DE, b). ∠DAE,
c). BC, d). ∠BCD.



9).



The cross sectional area of a shed is a trapezium. The taller side is 2.8 metres and the shorter side is 2.4 metres.
The distance between the sides is 2.5 metres. Find

a). the angle of slope of the roof with the horizontal,

b). the length of the sloping roof.

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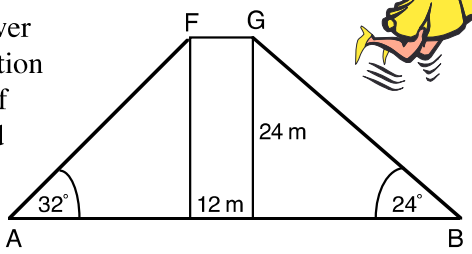
10). Two people, A and B, are on the opposite sides of a tower 24 metres high and 12 metres wide. The angle of elevation from A to the top of the tower, F, is 32° and the angle of elevation from B to the top of the tower, G, is 24°. Find

a). the distance AF,
b). the distance BG,
c). the distance AB.

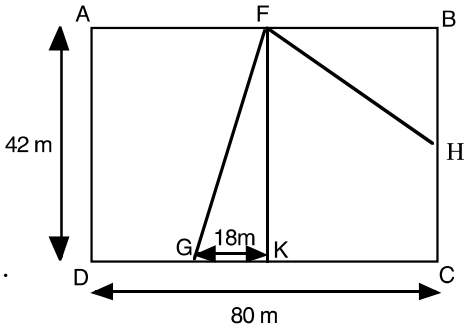


11). The diagram shows a rectangular hockey pitch ABCD which is 80 metres long and 42 metres wide.
Gina is standing at G on one side line, 18 metres from the centre line FK. She hits the ball in a straight line to Fiona at F.

a). Calculate the distance that the ball travels from Gina to Fiona, to 1 d.p..

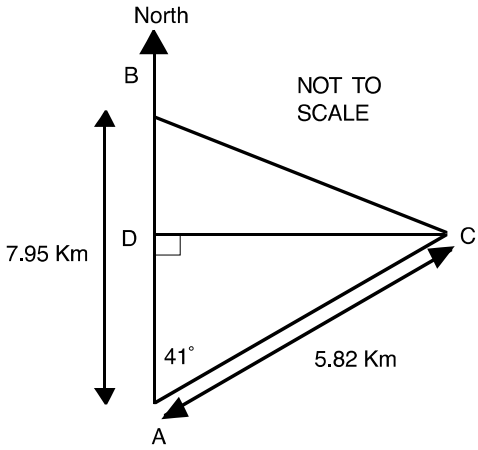
Fiona now hits the ball towards H, the midpoint of BC.

b). Calculate the angle, to the nearest degree, which the line FH makes with the centre line.



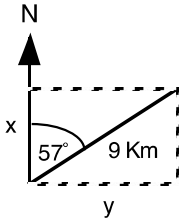
12). The straight road from Alton to Barton runs due North for a distance of 7.95 Km. This road is represented by the straight line AB in the diagram.
It is proposed to build a new road in two sections.
The first section (shown by AC in the diagram) will run from Alton on a bearing of 041° and will be 5.82 Km long.
The second section is shown by CB.
The point on AB due West of C is D.
Calculate, correct to three significant figures,

a). the distance CD, b). the distance AD,
c). the distance BD,
d). the difference in length between the road AB and the new road ACB.



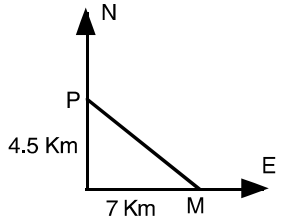
13). An explorer walks on a bearing of 057° for 9 Km. Find

a). how far North of the original position he has walked, x,
b). how far East of the original position he has walked, y.



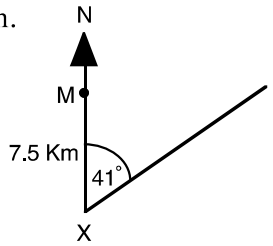
14). Find the bearing of

a). M from P,
b). P from M.



15). A walker notes that a monument is due North and 7.5 Km from him. He then walks on a bearing of 041°.

a). Copy the diagram down and mark on it the point Y where he is closest to the monument.
b). Calculate how far he is from the monument at this point to 2 decimal places.



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