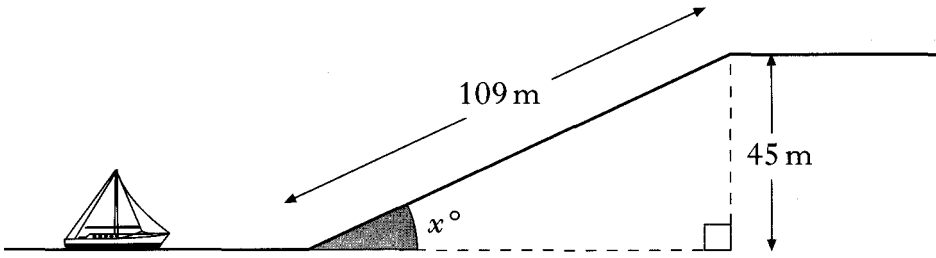
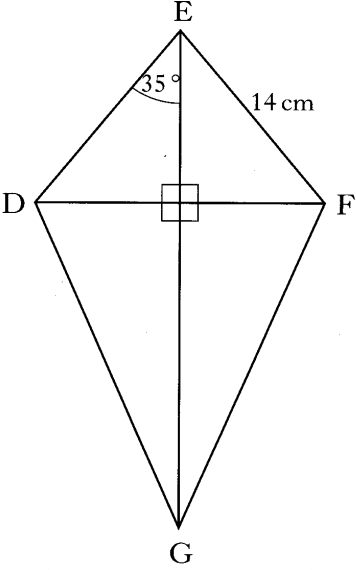
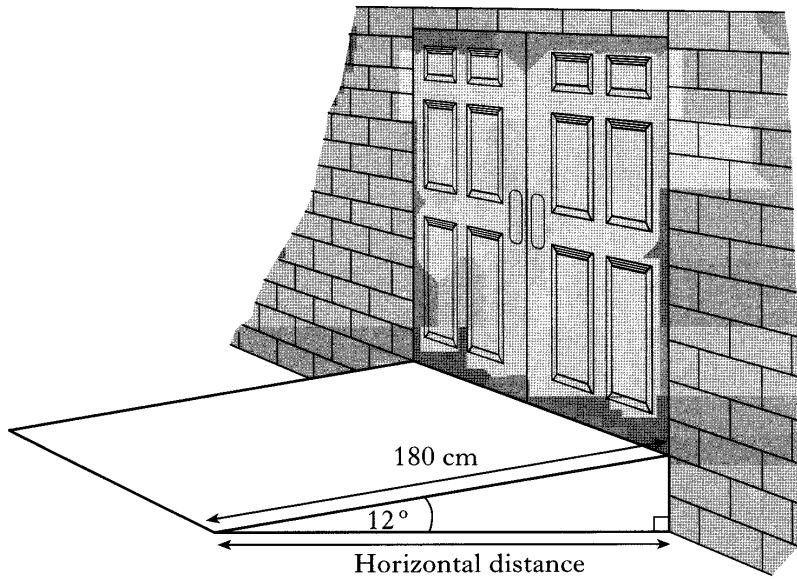


<p>2008 P2 Q12</p>	<p>A boat elevator is used to take a boat from the lower canal to the upper canal.</p> <p>The boat elevator is in the shape of a triangle.</p> <p>The length of the hypotenuse is 109 metres.</p> <p>The height of the triangle is 45 metres.</p>  <p>Calculate the size of the shaded angle x°.</p>	<p>3</p>
<p><i>Ans</i> 24.4°</p>		
<p>2007 P2 Q6</p>	<p>DEFG is a kite:</p> <ul style="list-style-type: none"> • angle DEG = 35° • EF = 14 centimetres.  <p>Calculate the length of DF.</p>	<p>4</p>
<p><i>Ans</i> 16.1cm</p>		

2006 P2 Q4

The entrance to a building is by a ramp as shown in the diagram below.
The length of the ramp is 180 centimetres.
The angle between the ramp and the ground is 12° .

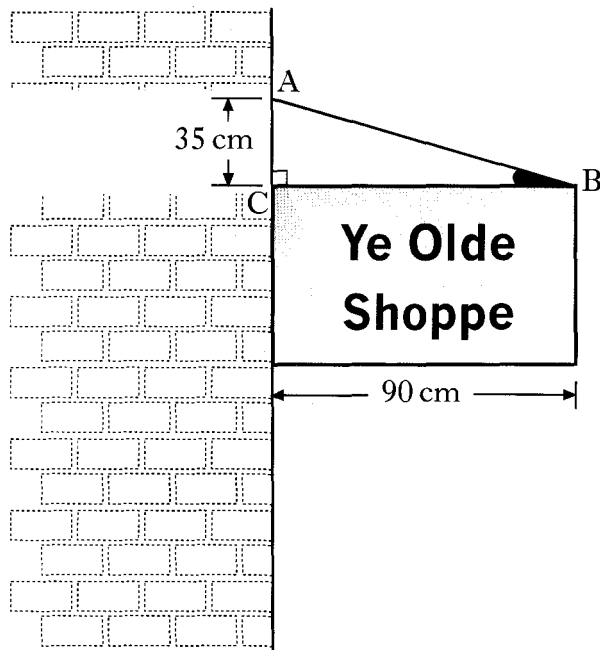


Calculate the horizontal distance.
Round your answer to one decimal place.
Do not use a scale drawing.

4

Ans 176.1cm

2005 P2 Q11



A rectangular shop sign is supported by a metal bar AB.

The length of the shop sign is 90 centimetres and the bar AB is attached to the wall 35 centimetres above the sign.

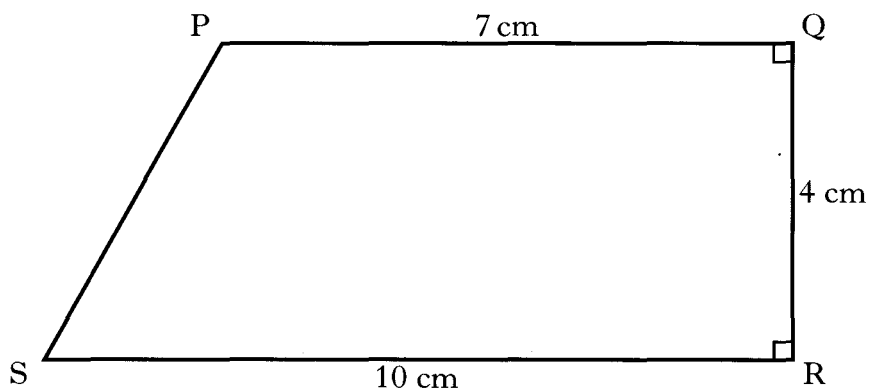
Calculate the size of the shaded angle ABC.

Do not use a scale drawing.

3

Ans 21.3°

2004 P2 Q6



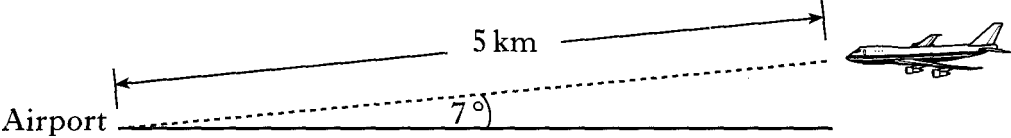
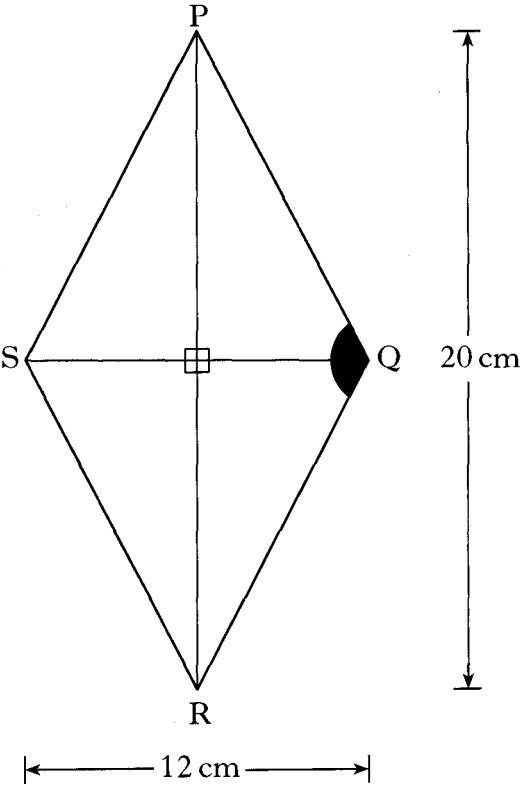
PQRS is a trapezium.

- $PQ = 7$ centimetres.
- $QR = 4$ centimetres.
- $SR = 10$ centimetres.
- Angles PQR and QRS are both right angles.

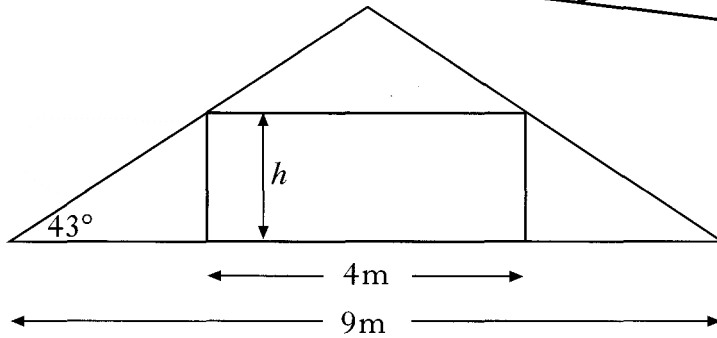
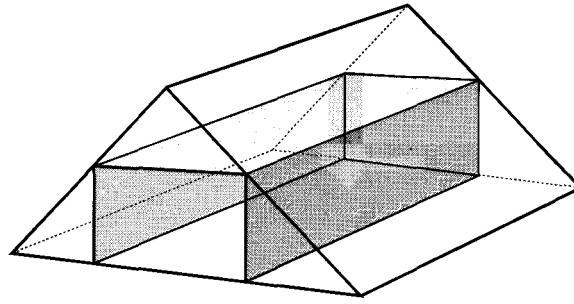
Calculate the size of angle PSR.

Do not use a scale drawing.

4

<i>Ans</i>	53.1°	
2003 P2 Q12	 <p>An aircraft is approaching Glasgow airport. The angle of elevation of the aircraft from the airport is 7°. The aircraft is at a distance of 5 km from the airport. Find the height of the aircraft, to the nearest metre. Do not use a scale drawing.</p>	4
<i>Ans</i>	609 m	
2002 P2 Q6	<p>PQRS is a rhombus. Its diagonals PR and SQ are 20 centimetres and 12 centimetres long respectively.</p>  <p>Calculate the size of the shaded angle PQR. Do not use a scale drawing.</p>	4
<i>Ans</i>	118°	

An architect is designing a room in an attic of a house.



- The room is 4 metres wide.
- The width of the roof is 9 metres.
- The sloping part of the roof makes an angle of 43° with the attic floor.

To satisfy building regulations the height, h , of the room must be **not less than** 2.3 metres.

Does the architect's design satisfy the building regulations?

Give a reason for your answer.

4

2001 P2 Q12

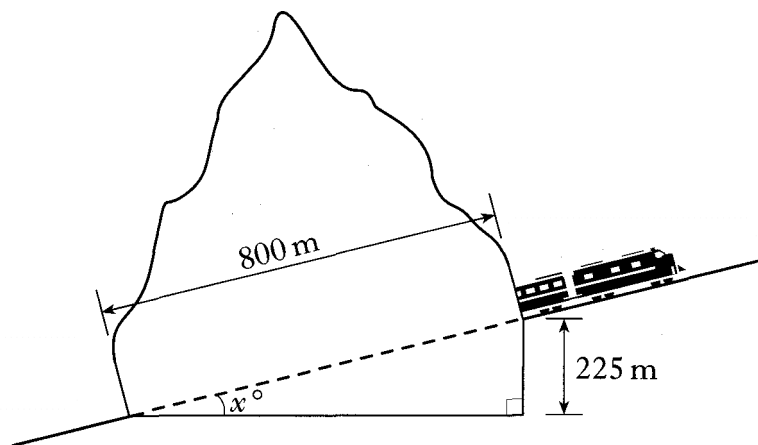
Ans Yes. The height is 2.33m which is more than 2.3m.

A mountain railway tunnel is 800 metres long.

It rises 225 metres vertically.

Calculate the size of the angle marked x° .

3



2000 P2 Q3

Ans 16.3°