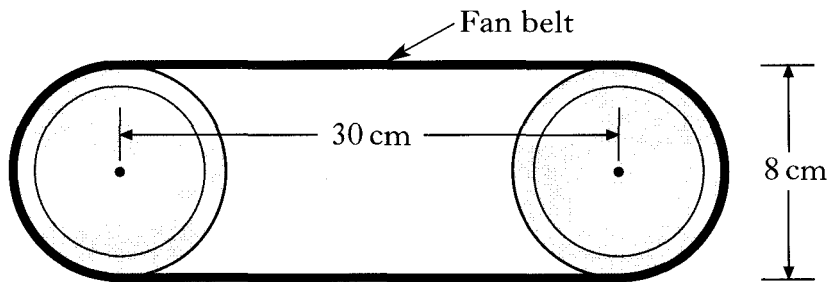


<p>2008 P2 Q9</p>	<p>Ian is making a sign for Capaldi's Ice Cream Parlour.</p> <p>The sign will have two equal straight edges and a semi-circular edge.</p> <p>Each straight edge is 2.25 metres long and the radius of the semi-circle is 0.9 metres.</p> <div data-bbox="954 309 1279 801" style="text-align: center;"> </div> <p>Calculate the perimeter of the sign.</p>	<p>4</p>
<p>Ans</p>	<p>7.3 m²</p>	
<p>2007 P2 Q7</p>	<p>A supermarket has a canopy over its entrance.</p> <div data-bbox="861 985 1045 1176" style="text-align: center;"> </div> <p>The edge of the canopy has 6 semicircles as shown below.</p> <div data-bbox="311 1265 1069 1355" style="text-align: center;"> </div> <p>Each semicircle has a diameter of 4 metres.</p> <p>(a) Find the length of the curved edge of one of the semicircles.</p> <p>(b) Tony attaches fairy lights to the edge of the canopy.</p> <div data-bbox="470 1624 1013 1758" style="text-align: center;"> </div> <p>He has 40 metres of fairy lights.</p> <p>Is this enough for the whole canopy?</p> <p>Give a reason for your answer.</p>	<p>2</p>
<p>Ans</p>	<p>(a) 6.28 m (b) Yes. He needs 37.68m which is less than 40m.</p>	<p>2</p>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">2007 P2 Q10a</p>	<p>The end face of a grain hopper is shown in the diagram.</p> <p>(a) Calculate the area of the end face.</p> <div style="text-align: center;"> </div>	3	
<p><i>Ans</i> 15m²</p>			
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">2006 P2 Q8</p>	<p>ABCD is a rhombus.</p> <p>AE = 4.3 metres and BE = 2.9 metres.</p> <p>Calculate the perimeter of the rhombus.</p> <div style="text-align: center;"> </div> <p>Do not use a scale drawing.</p>	4	
<p><i>Ans</i> 20.7m</p>			

2005 P2 Q12

The diagram below shows the fan belt from a machine.
The fan belt passes around 2 wheels whose centres are 30 centimetres apart.
Each wheel is 8 centimetres in diameter.



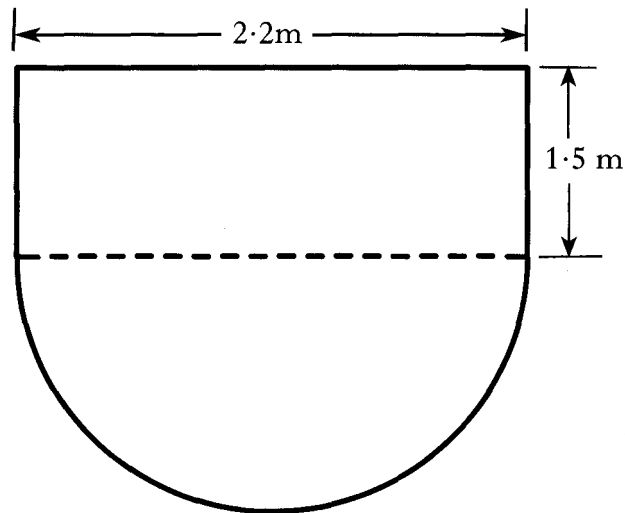
Calculate the total length of the fan belt.

4

Ans 85.12cm

2004 P2 Q8

The floor of a conservatory consists of a rectangle and a semicircle.
The floor has the shape shown below.
The measurements are in metres.



Find the total area of the floor.

4

Ans 5.2m^2

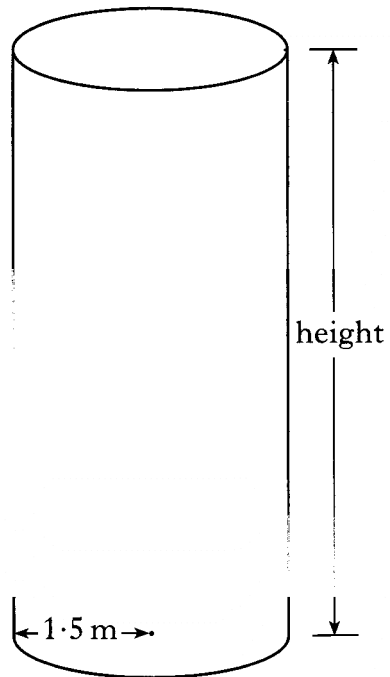
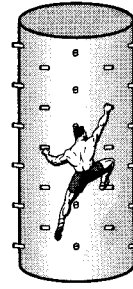
An adventure park is installing a climbing wall.

The wall is in the shape of a cylinder to which climbing pegs are attached.

The radius of the cylinder is 1.5 metres.

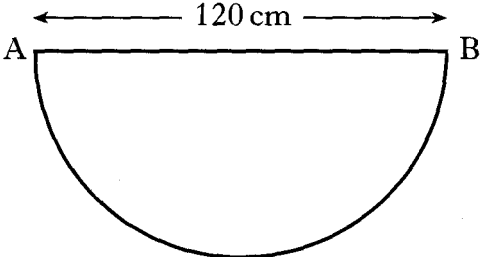
The cylinder has a curved surface area of 75.5 square metres.

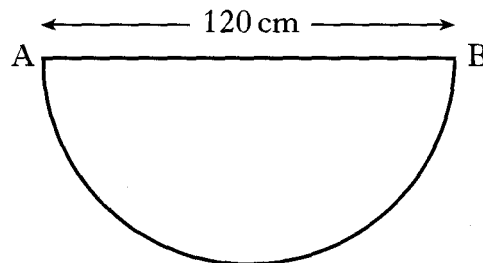
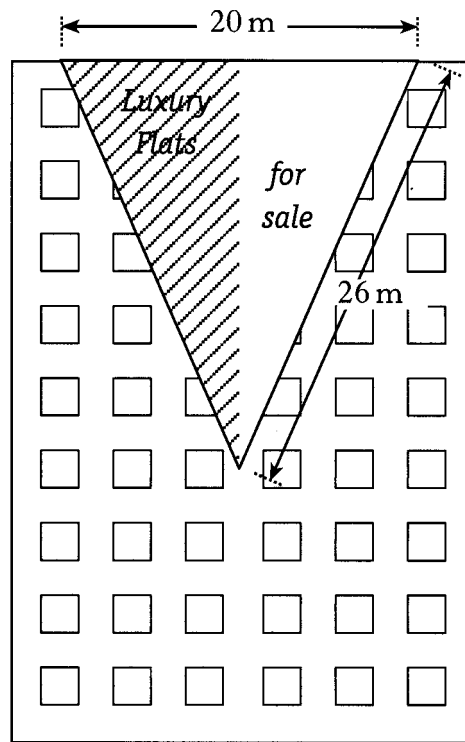
What height will the cylinder be?



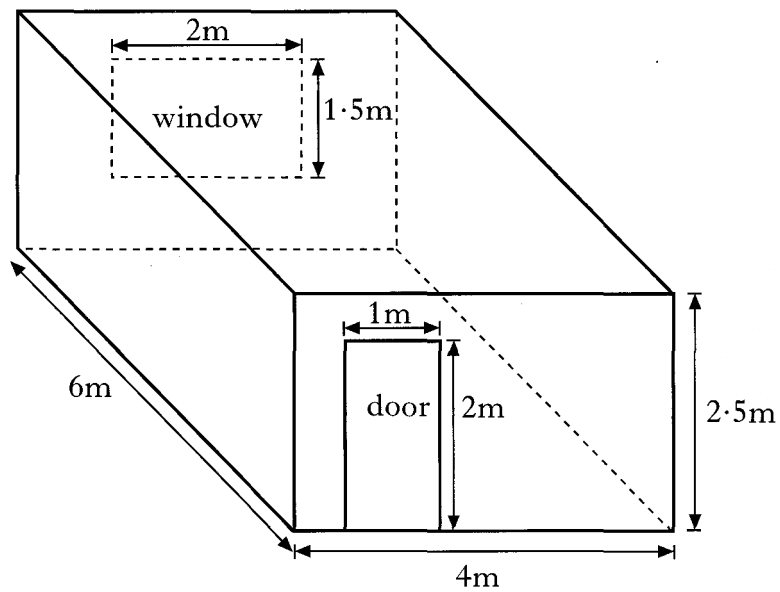
2003 P2 Q11

Ans 8.01m

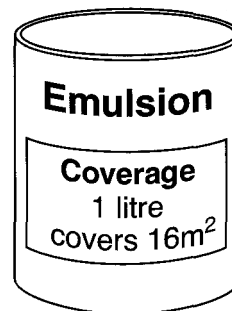
2003 P2 Q13	<p>A large advertising banner is hanging from a building.</p> <p>The banner is an isosceles triangle.</p> <p>The top edge of the banner is 20 metres long and each of the other two sides is 26 metres long.</p> <p>Find the area of the banner.</p>	4
Ans	240m ²	
2002 P2 Q10	<p>A joiner is making tables for a new coffee shop.</p> <p>The shape of the top of a table is a semi-circle as shown below.</p> <p>AB = 120 centimetres.</p> <div style="text-align: center;">  </div> <p>The top of the table is made of wood and a metal edge is to be fixed to its perimeter.</p> <p>(a) Calculate the total length of the metal edge.</p> <p>(b) The coffee shop needs 16 tables.</p> <p>The joiner has 50 metres of the metal edge in the workshop.</p> <p>Will this be enough for all sixteen tables?</p> <p>Give a reason for your answer.</p>	3
Ans	(a) 308.4cm (b) Yes. He needs 49.34m which is less than 50m.	2



Mairi is planning to paint the walls of her room with emulsion paint.
The room is in the shape of a cuboid, with the dimensions shown.



- (a) How much paint does Mairi need to paint the walls of her room?



- (b) Paint is sold only in 1 litre and 2.5 litre tins.
What will be the minimum cost of painting Mairi's room with emulsion?



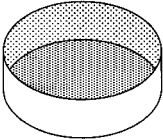
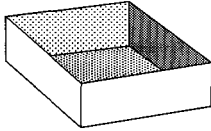
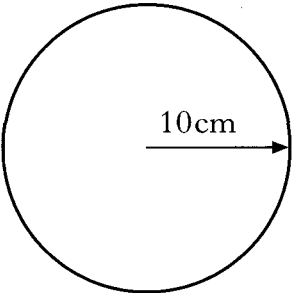
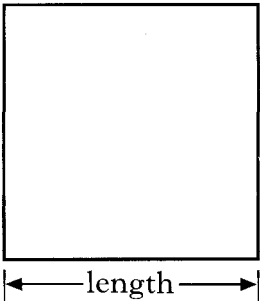
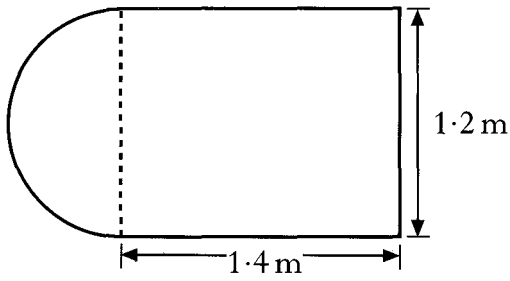
2001 P2 Q6a

Ans

(a) 3 Litres (b) £19.25

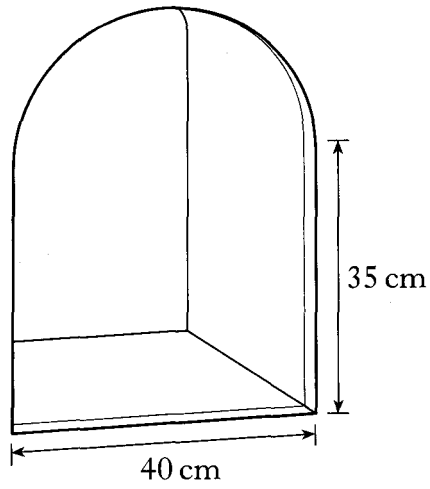
2

2

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">2001 P2 Q10</p>	<p>The base of a round cake tin has the same area as the base of a square cake tin.</p> <p>The round cake tin has a radius of 10 centimetres.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;">   </div> <p>What is the length of the base of the square cake tin?</p>	3
<p><i>Ans</i></p>	<p>17.7cm2.25</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">2001 P2 Q11a</p>	<p>(a) The base of a lift is in the shape of a rectangle with a semi-circular end as shown.</p> <div style="text-align: center; margin: 20px 0;">  </div> <p>Calculate the area of the base of the lift.</p>	3
<p><i>Ans</i></p>	<p>2.25m^2</p>	

2000 P2 Q6

The opening of the fireplace, shown in the diagram below, consists of a rectangle and a semi-circle.



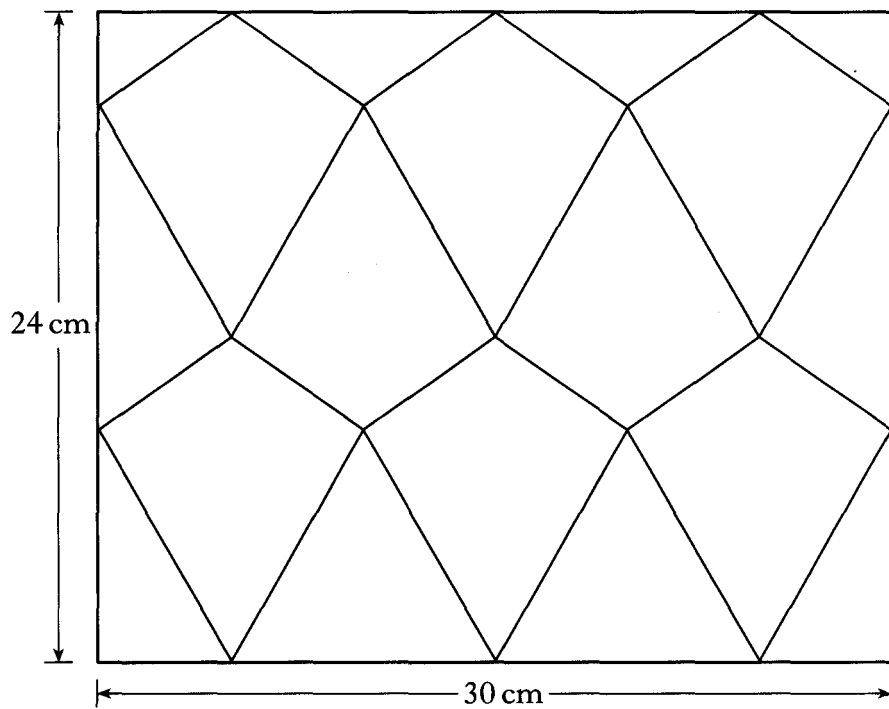
A metal strip is to be placed around the fireplace opening.
Calculate the length of the metal strip.

4

Ans 172.8cm

2000 P2 Q9

This is part of a tiling of **congruent** kites.



Calculate the area of one kite.

4

Ans 60cm^2