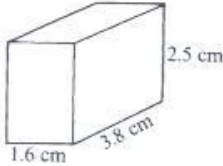


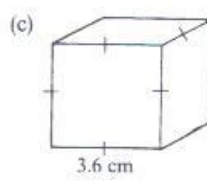
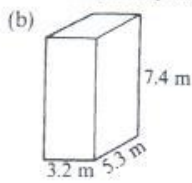
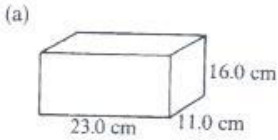
# 10.1 Exercise Surface Area - Prisms, and Cylinders

A Use a net to help you plan the calculations of surface areas.

- 1 A rectangular prism is shown.  
 (a) Sketch a net of the prism and show the measures.  
 (b) Calculate the surface area.



- 2 Calculate the surface area of each rectangular prism.

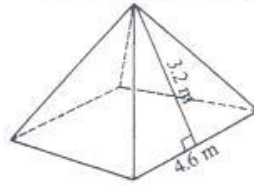


- 3 Find the surface area of each rectangular prism.

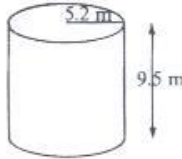
	Length	Width	Height
(a)	14.1 cm	6.2 cm	4.5 cm
(b)	21.0 cm	15.5 cm	27.5 cm
(c)	5.5 m	3.7 m	1.5 m
(d)	7.9 cm	5.4 cm	7.0 cm

- 4 A square-based pyramid is shown.

- (a) Sketch a net of the pyramid and show the measures.  
 (b) Calculate the surface area of the pyramid.

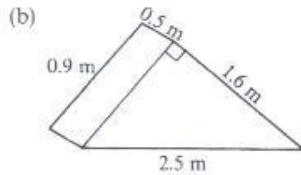
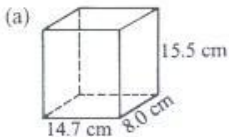


- 5 (a) Sketch the net of this cylinder and show the measures.  
 (b) Calculate the surface area of the cylinder.

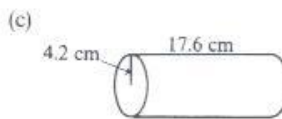
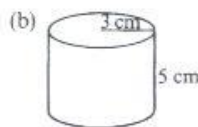
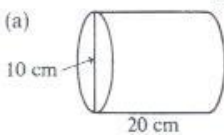


B Remember to use estimation to check the reasonableness of your results.  
 Use  $\pi \approx 3.14$ .

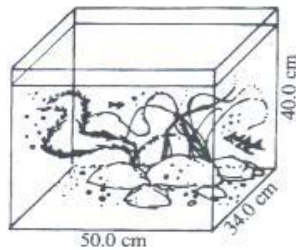
- 6 Calculate the surface area of each of the following solids.



- 7 Find the surface area of each cylinder. Use a calculator. Express your final answer in the appropriate form.

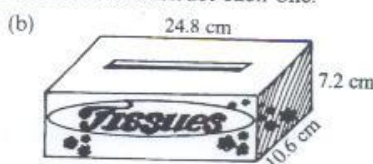


- 8 (a) Calculate the area of glass needed to construct the aquarium.  
 (b) If the glass used costs \$58.95/m<sup>2</sup>, what is the cost of this aquarium?



- 9 A tin is 12.5 cm high and has a diameter of 8.0 cm. Calculate the area of the label that needs to be used if the overlap is 0.5 cm.

- 10 10% extra material for the overlap of the edges is needed to construct each tissue box. Calculate the amount of paper needed to construct each one.



## SOLUTIONS...

10.1 Exercise, page 389  
 1. b) 39.2 cm<sup>2</sup> 2. a) 1594 cm<sup>2</sup> b) 159.7 m<sup>2</sup> c) 777.8 cm<sup>2</sup>  
 3. a) 357.5 cm<sup>2</sup> b) 2658.5 cm<sup>2</sup> c) 68.3 m<sup>2</sup> d) 271.5 cm<sup>2</sup>  
 4. b) 50.6 m<sup>2</sup> 5. b) 480.0 m<sup>2</sup> 6. a) 939 cm<sup>2</sup> b) 3.9 m<sup>2</sup>  
 c) 1719.9 cm<sup>2</sup> 7. a) 785 cm<sup>2</sup> b) 150 cm<sup>2</sup> c) 575 cm<sup>2</sup> 8. a) 8420 cm<sup>2</sup>  
 b) 849.64 9. 320.3 cm<sup>2</sup> 10. a) 1649 cm<sup>2</sup> b) 1217 cm<sup>2</sup> 11. 11.5 m<sup>2</sup>  
 12. a) 2.8 m<sup>2</sup> b) 10.3 L 13. 3 14. b) cube: 5 cm × 5 cm × 5 cm  
 cylinder: several possible dimensions

- 7 Find the surface area of each cylinder. Use a calculator. Express your final answer in the appropriate form.



- 8 (a) Calculate the area of glass needed to construct the aquarium.  
 (b) If the glass used costs \$58.95/m<sup>2</sup>, what is the cost of this aquarium?

11 The tent shown in the diagram has a sewn-in ground sheet. Find the amount of material used to make the tent if 0.3 m<sup>2</sup> of extra material is added for the seams.

12 Sealed oil drums are often used to support a floating dock. The outside diameter of an oil drum is to be painted with 2 coats of underwater paint. The diameter of the drum is 0.6 m and its height is 1.2 m.  
 (a) Calculate the surface area.  
 (b) Twelve drums are used to make a floating dock at a marina. How many litres of paint are needed if 1 L covers 6.5 m<sup>2</sup>?