



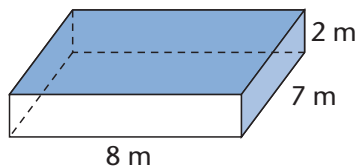
Year 10 Mathematics

Surface Area and Volume Practice Test 1

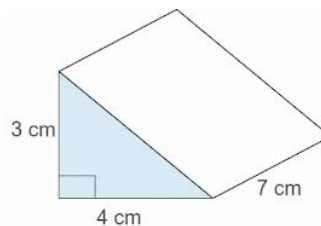
Name _____

1 Find the surface area of the following solids

a)



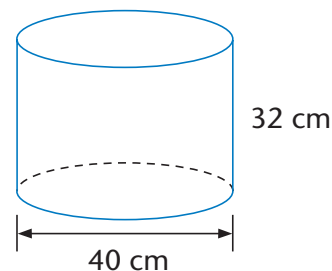
b)



2 Find the surface area of a cylinder, which has a radius of 8 cm and a height of 9.5 cm correct to 1 d.p.

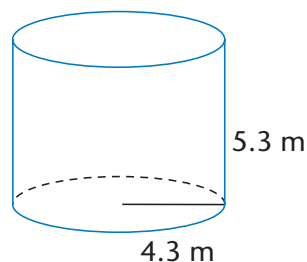
3 For the cylinder given find

- (i) the curved surface area
- (ii) the area of the circular ends
- (iii) the surface area



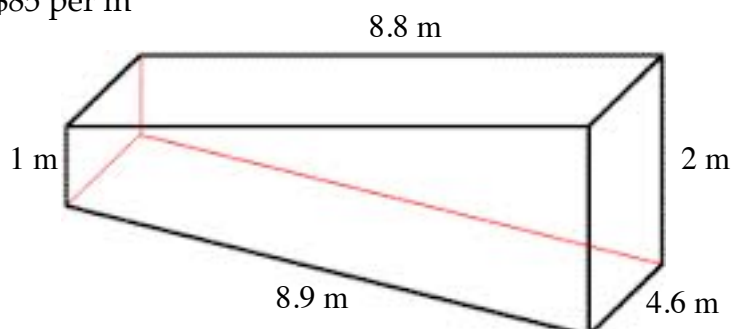
Give the answers correct to 2 d.p

4 Find the curved surface area of the cylinder correct to 1 decimal place

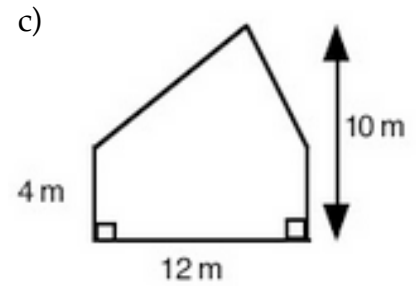
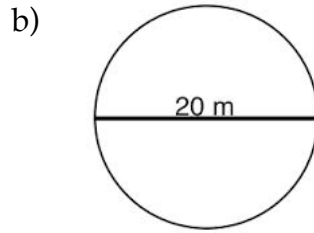
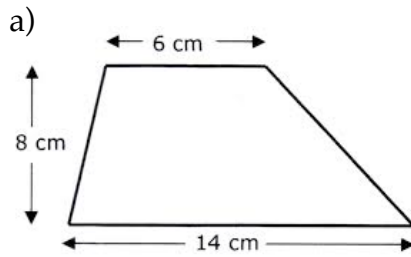


5 A water tank is cylindrical in shape. If it has a 1.5 m radius and a height of 2 m, find the area of the sheet metal needed to construct it. (Answer correct to 2 d.p)

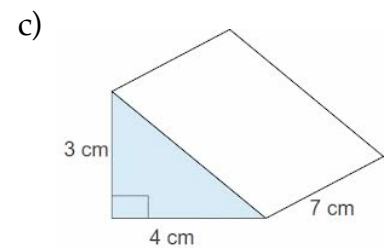
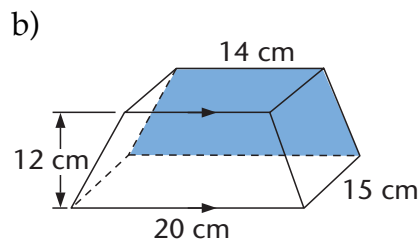
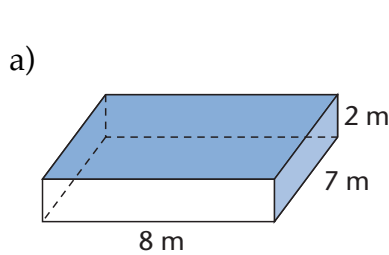
6 A swimming pool is shown in the diagram. Find the cost of tiling the walls and floor of the pool at \$85 per m^2



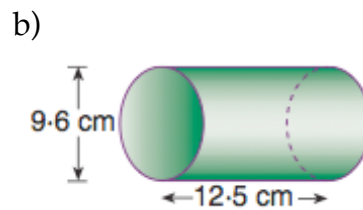
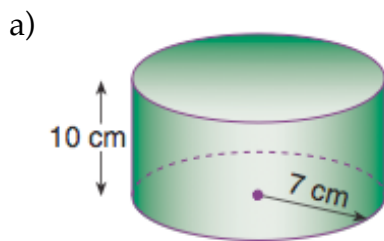
7 Calculate the areas of the following figures



8 Find the volume of the following solids



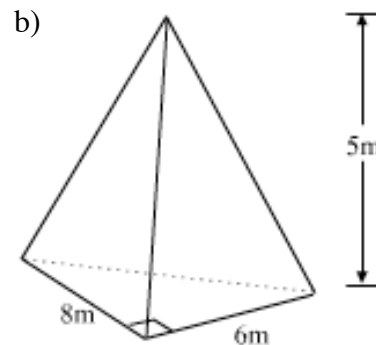
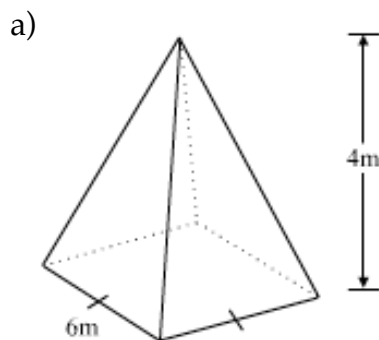
9 Find the volumes of the cylinders below. Give the answers to 1 d.p



10 Find the volume of a rectangular pyramid which has a base 6.2 cm long and 4.5 cm wide and a height of 9.3 cm.

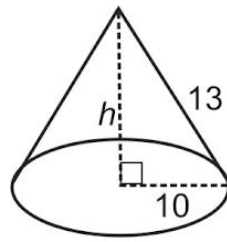
11 A pyramid as a hexagonal base with an area of 12.6 cm^2 . If the height of the pyramid is 7.1 cm. Calculate the volume

12 Calculated the volume of these pyramids

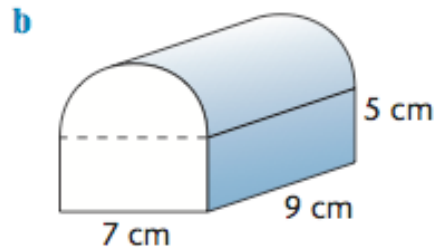
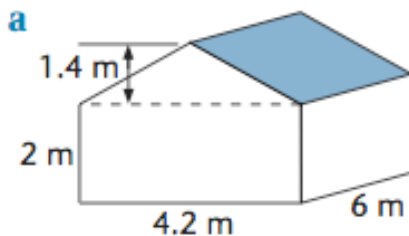


13 Find the volume of a cone with a radius of 6.2 cm and a height of 5.8 cm. Give your answer correct to 3 significant figures

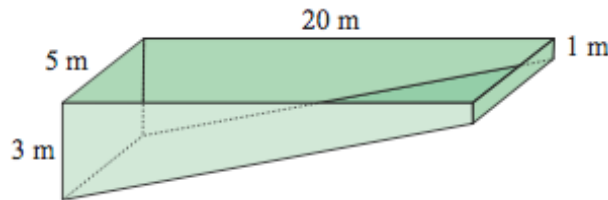
- 14 Use Pythagoras' Theorem to calculate the height h correct to 3 decimal places and then use this value to calculate the volume correct to 3 significant figures



- 15 Find the volume of a sphere with a radius of 5.2 cm. Give your answer to 3 sig figs
- 16 If the diameter of a sphere is 3.6 m, calculate the volume of the sphere correct to 1 decimal place
- 17 Calculate the volume of these solids



- 18 A swimming pool is shown. Calculate the volume of the pool in cubic metres and its capacity in litres. $1 \text{ m}^3 = 1000 \text{ litres}$



- 19 A tin is cylindrical in shape. Calculate the volume of the tin in cubic centimetres to 2 d.p and its capacity to the nearest litre if the tin has a height of 45 cm and a diameter of 25 cm.

ANSWERS

- 1 a) 172 m^2 b) 96 m^2
- 2 879.6 cm^2
- 3 i) $80\,424.77 \text{ cm}^2$ ii) 2513.28 cm^2 iii) $82\,938.05 \text{ cm}^2$
- 4 143.2 m^2
- 5 32.99 m^2
- 6 $4.6 + 9.2 + 40.94 + 13.2 + 13.2 = 81.14 \text{ m}^2$ $81.14 \times 85 = \$6896.90$
- 7 a) 80 cm^2
- 8 a) 112 m^3 b) 3060 cm^3 c) 42 cm^3
- 9 a) 1539.4 cm^3 b) 904.8 cm^3
- 10 86.49 cm^3
- 11 29.82 cm^3
- 12 a) 48 m^3 b) 40 m^3
- 13 233 cm^3
- 14 $h = 8.307$ Volume = 869.9 cm^3
- 15 589 cm^3
- 16 24.4 m^3
- 17 a) $50.4 + 17.64 = 68.04 \text{ m}^3$ b) $315 + 173.18 = 488.18 \text{ cm}^3$
- 18 Volume = 200 m^3 Capacity = $200 \times 1000 = 200\,000$ litres
- 19 Volume = $22\,089.32 \text{ cm}^3$ Capacity = 22 litres