ANSWERS U7L4 Answers

AREA - TRIANGLE, PARALLELOGRAM, TRAPEZIUM

Show ALL your working to each of the following questions:

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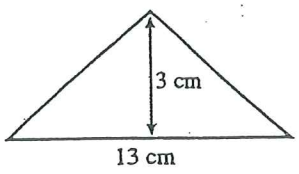
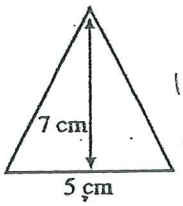
1 Work out the area of these triangles:

(a)



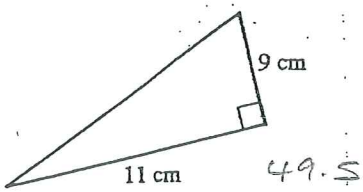
19.5

(b)



17.5

(c)



49.5

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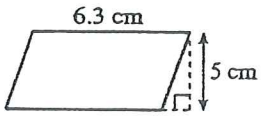
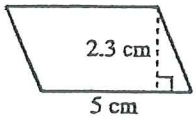
2 Work out the areas of these parallelograms:

(a)



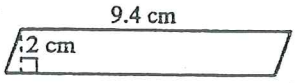
31.5

(b)



11.5

(c)



18.8

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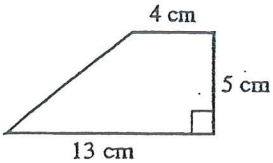
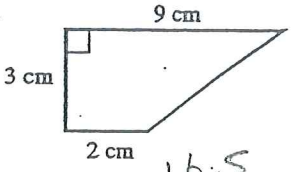
3 Work out the areas of these trapeziums:

(a)



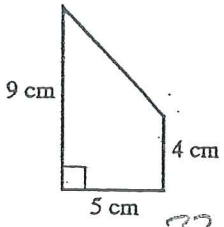
42.5

(b)



16.5

(c)



32.5

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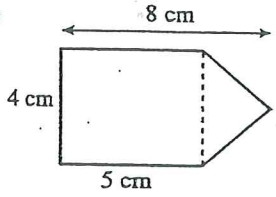
4 Work out the areas of these shapes:

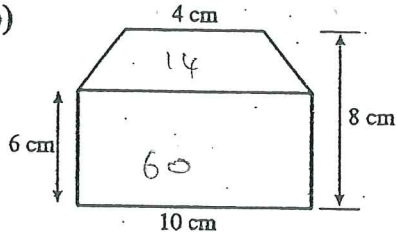
(a)



20 + 6

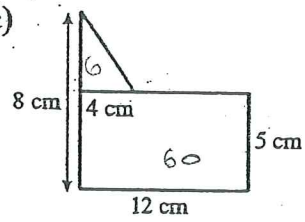
26

(b)



74

(c)

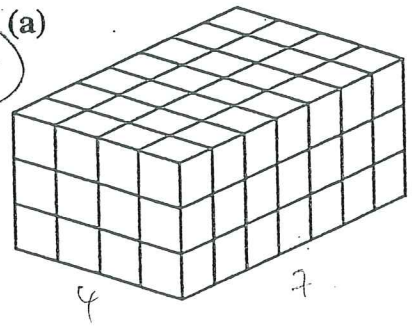


66

Volume and Surface Area

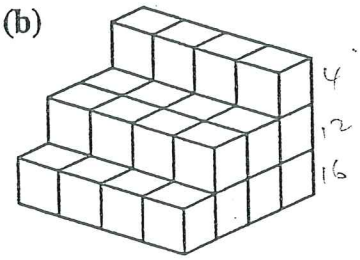
1. Find the volume of each of these solid shapes.
Each shape has been made using centimetre cubes.

(a)



84

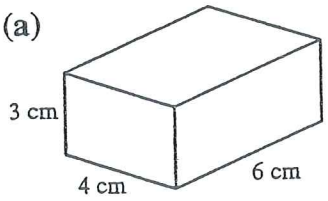
(b)



32

2 Work out the volume and surface area:

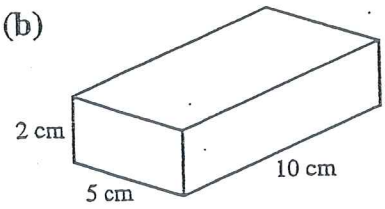
(a)



V = 72

SA = 108

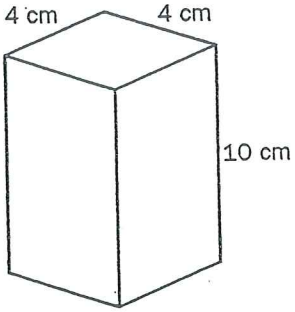
(b)



V = 100

SA = 160

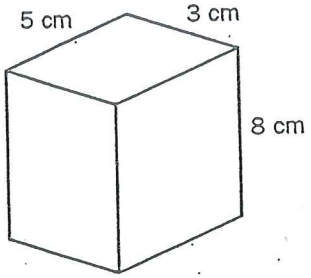
(c)



V = 160

SA = 192

(d)



V = 120

SA = 158

Circles

Circumference = π x diameter	**C = πd**
Circumference = 2 x π x radius	**C = 2πr**

1). Use π = 3.14. Calculate the circumference of each circle to 2 d.p., if the diameter is :

a). 12 cm b). 20 cm c). 35 cm d). 90 cm e). 2 cm

37.68 62.8 109.9 282.6 6.28

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2) Using the π button on your calculator, calculate the circumference of these circles to 2 d.p. when the radius is:

a). 10 cm b). 55 cm c). 12 m d). 560 m e). 490 Km

~~314~~ 62.83 345.58 75.40 3518.58 3078.76

3) The minute hand on a watch is 2.5 cm long. Over what area does this hand travel in1 hour ?

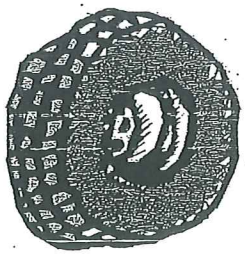
19.63

4) A farmer has a circular field which is 170 metres across. He wishes to cover it with plastic sheeting. What area of sheeting does he require ?

22698.01

5) A circular table is 1.8 metres across. What is the area of the table top ?

2.54



6) Rover is tied to a post in the middle of the garden with a rope 12 ft long. On what area of the garden can poor little Rover walk ?

452.39

7) The minute hand on a watch is 1.5 cm long. What distance does the tip of this hand travel through in

a). 1 hour ? 9.42

b). 1 day ? 226.19

8) A farmer has a circular field which is 250 metres across. He wishes to put a fence around the field. What length of fencing does he require ? 785.40

9) A bicycle tyre has a 40 cm radius.

a). If the wheel travels through 1 complete revolution, how far has the bicycle travelled? 251.33

b). The wheel rotates 120 times, how far has the bicycle travelled ? 30159.29

10) A car tyre has a 55 cm radius.

345.58 cm a). If the wheel travels through 1 complete revolution, how far has the car travelled?

b). The wheel rotates 2500 times, how far has the car travelled

i). in cm, ii). in m, iii). in Km ?

86 3937.98 8639.4 8.64

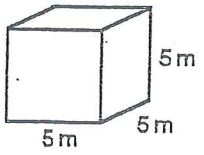
Volumes of Prisms

A prism is a solid with a uniform cross section (the same shape and size).

The volume of a prism = area of cross section x length

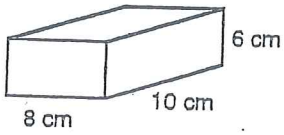
Find the volume of the following prisms.

(1)



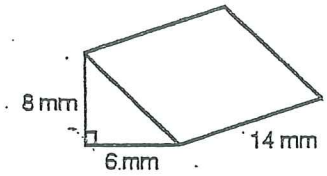
125

(2)



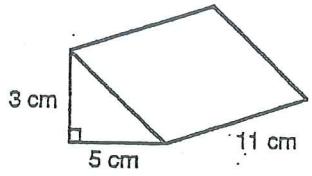
480

(3)



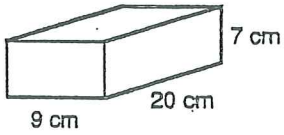
384

(4)



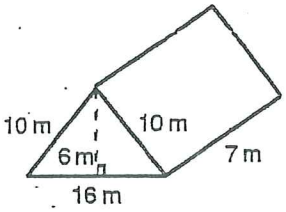
82.5

(5)



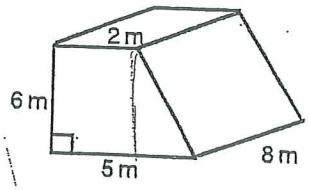
1260

(6)



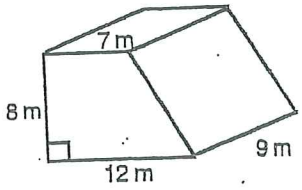
336

(7)



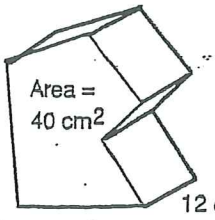
168

(8)



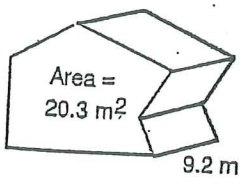
684

11



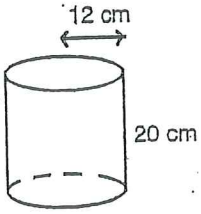
480

12



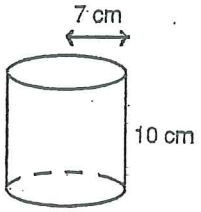
186.76

13



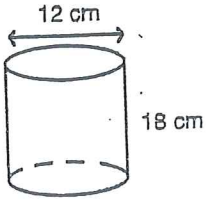
9047.79

14



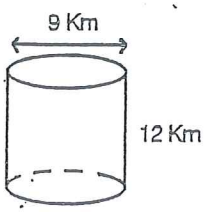
1539.38

15



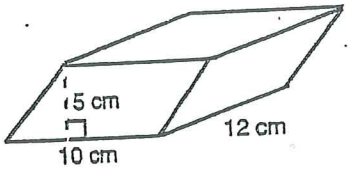
2035.75

16



763.41

17



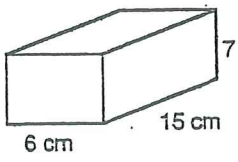
600

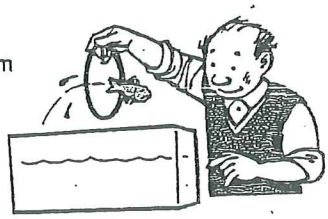
18 A rectangular box has a base 15 cm by 6 cm.

a). What is the area of the base ? 90

The height is 7 cm.

b). What is the volume of the box ? 630





19 Billy buys a fish tank. The dimensions are 32 cm by 91 cm by 35 cm.

a). Calculate the volume of the fish tank in cm^3. 101920

b). How many litres of water will it hold when full ?

(1000 cm^3 = 1 litre) 101.92 l