

Year 11 Essentials
2019 Test 4
Perimeter, Area, Mass, Volume and Capacity

Name: Solutions

Resources allowed: Calculator and 1 x A4 page one side

Show all working out for full marks

Total: /45
Time: 45 mins

1. [6 marks]

Convert the following

a) $56\text{cm} =$ ~~560~~ 56 mm

d) $500\text{ml} =$ 0.5 l

b) $3600\text{m} =$ 3.6 km

e) $634\text{cm}^3 =$ 634 ml

c) $3.4\text{cm}^2 =$ 340 mm²

f) $580\text{g} =$ 0.58 kg

2. [2 Marks]

If you have a 2.5m piece of wood, and you needed 6 pieces cut, **estimate** how long should each piece be? (nearest 10cm)

$240 \div 6 \approx$ 40cm

3. [3 marks]

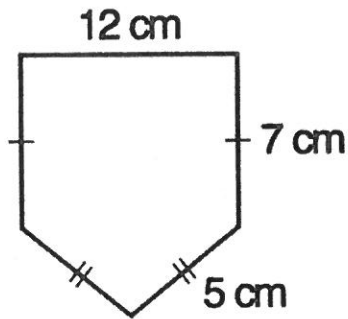
If a room is 7.2 metres long, and 5.9 meters wide, **estimate** how big is the room is to the nearest square meter? (hint- draw a diagram and don't give exact answer)

$7 \times 6 =$ ~~42~~ 42 m²

4. [2 marks]

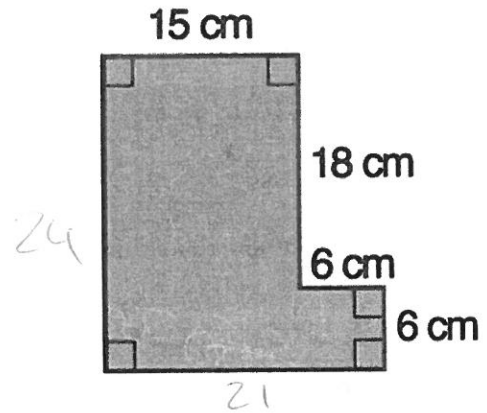
Find the perimeter of the following shapes

a



$$P = 12 + 7 + 7 + 5 + 5 = 36 \text{ cm} \quad \checkmark$$

b



$$P = 15 + 18 + 6 + 6 + 21 + 24 = 90 \text{ cm} \quad \checkmark$$

5. [8 marks]

Use the following table to convert these imperial units to metric

IMPERIAL	METRIC
1 inch	2.54cm
1 foot	30.4cm
1 yard	91.44cm 0.9144m
1 mile	1.609km

a) 40 feet to meters

$$40 \times 30.4 \div 100 = 12.16 \text{ m} \quad \checkmark$$

b) 30 inches to centimetres

$$30 \times 2.54 = 76.2 \text{ cm} \quad \checkmark$$

c) 65 metres to yards

$$65 \div 0.9144 = 71.08 \text{ yards} \quad \checkmark$$

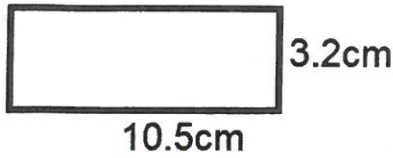
d) 60 miles to Kilometres

$$60 \times 1.609 = 96.54 \text{ km} \quad \checkmark$$

6. [7 marks]

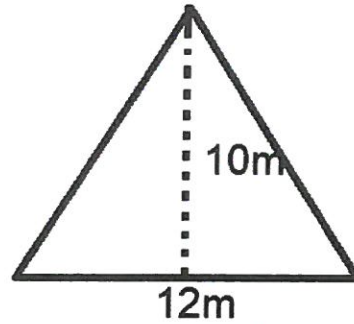
Find the Area of the following

a)



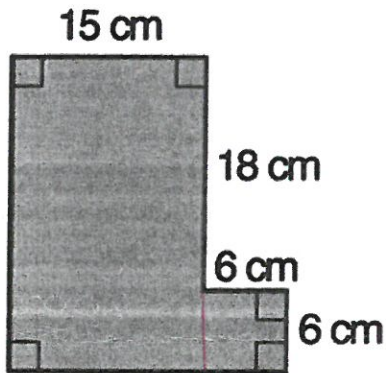
$$10.5 \times 3.2 \checkmark \\ = \underline{33.6 \text{ cm}^2} \checkmark$$

b)



$$\frac{1}{2} \times 12 \times 10 \checkmark \\ = \underline{60 \text{ m}^2} \checkmark$$

c)



$$6 \times 6 + 15 \times 24 \checkmark \\ = \underline{396 \text{ cm}} \checkmark$$

7. [5 marks]

Jack is tiling his bathroom floor with 12cm by 12 cm tiles.

a) Find the area of floor that needs to be tiled

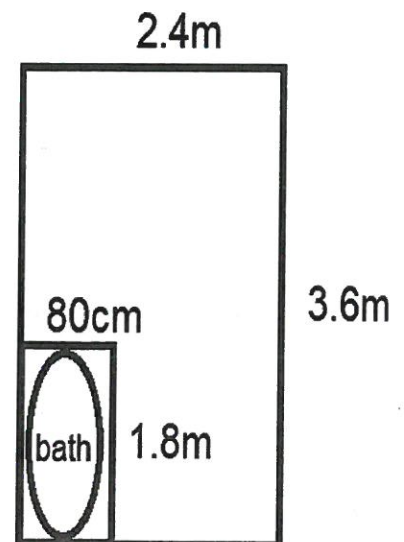
$$2.4 \times 3.6 - 0.8 \times 1.8 \checkmark \\ = \underline{7.2 \text{ m}^2} \checkmark$$

b) Find the area of each tile

$$12 \times 12 = \underline{144 \text{ cm}^2} = 0.0144 \text{ m}^2 \checkmark$$

c) How many tiles will Jack need to tile the bathroom?

$$7.2 \div 0.0144 = \underline{500 \text{ tiles}} \checkmark$$



8. [4 marks]

25L of water is poured into a rectangular fish tank, which is 50cm long, 20cm wide and 20cm high. Will it overflow?

$$50 \times 20 \times 20 = 20,000 \text{ cm}^3 = \underline{20 \text{ L}}$$

It will ~~not~~ overflow

9. [2 marks]

A pack of 500 sheets of paper has a mass of 2.5kg. find the mass of one sheet of paper, giving your answer in the most appropriate unit.

$$2500 \div 500 = 5 \text{ g}$$

new for grams

10. [6 marks]

A farmer is building a fence around his horse paddock. The paddock has an area of 2 hectares.

a) If the length of the paddock is 125m, what is the width?

$$20000 \text{ m}^2$$

$$20000 \div 125 = \underline{160 \text{ m}}$$

b) What length of fencing will be required to fence the entire horse paddock?

$$125 + 125 + 160 + 160$$

$$= \underline{570 \text{ m}}$$

c) If the fencing costs \$6/m, how much will it cost to fence the paddock?

$$570 \times 6 = \$3420$$