2022 Year 7 Measurement Revision Solutions

Year 7 Measurement Practice Test Name SOLUTIONS

Total: /44

Show your working-out and remember to include units in your answers.

Question 1 ***1 mark***

Which metric unit would be most appropriate for measuring the distance from Melbourne to Sydney? (Select from the following: mm, cm, m, km)

Question 2 ***1 mark***

Rearrange the following units in ascending order (smallest to largest)

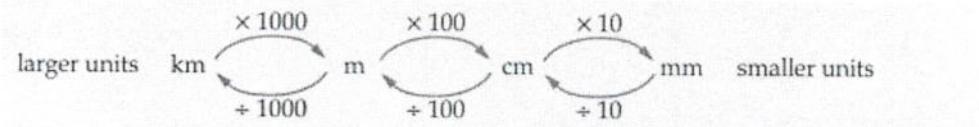
5.4 m, 500 cm, 5 km, 50 m

500cm, 5.4m, 50m, 5km

Question 3 ***1 mark***

Which metric unit would be most suitable for measuring the area of a mathematics textbook?

(Select from mm^2, cm^2, m^2, km^2)



To convert from a *larger* unit to a *smaller* unit, you *multiply*.
To convert from a *smaller* unit to a *larger* unit you *divide*.

Question 4 ***4 marks***

Complete the following conversions.

(a) 29 km = 29000 m

(b) 612 mm = 61.2 cm

(c) 89 m= 0.089 km

(d) 0.25km = 25,000 cm

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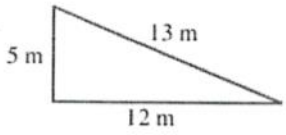
Question 5 **(1+2+2=5 marks)**

Find the perimeter of the following shapes.

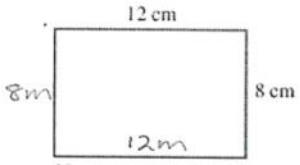
(a)



$P = 5+13+12$

$P = 30m$

(b)



$P = 12+12+8+8$

$P = 40m$

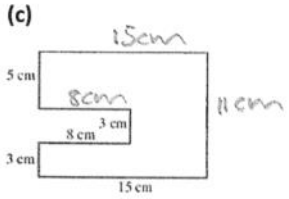
OR

$P = 2(12+8)$

$= 2 \times 20$

$= 40m$

(c)

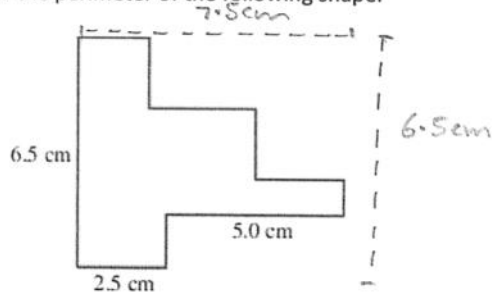


$P = 15+11+15+3+8+3+8+5$

$P = 68cm$

Question 6 ***2 marks***

Find the perimeter of the following shape.



$P = 6.5+6.5+7.5+7.5$

$P = 28cm$

OR

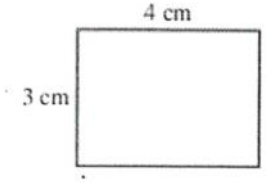
$P = 2 \times (6.5+7.5)$ (14)

$P = 2 \times 14$

$P = 28cm$

Question 7 ***2 marks***

Find the area of the following rectangle using the formula **area = length × width**.



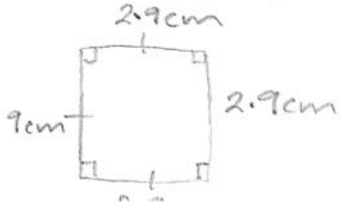
$A = L \times w$

$A = 4 \times 3$

$A = 12cm^2$

Question 8 ***2 marks***

Find the area of the square with side lengths of 2.9 cm.



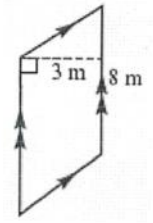
$A = L^2$ $(L \times L)$

$A = 2.9^2$ (2.9×2.9)

$A = 8.41 cm^2$

Question 9 *2 marks*

Find the area of the parallelogram using the formula **Area = base × height.**



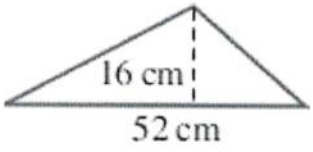
$A = b \times h$

$A = 8 \times 3$

$A = 24m^2$

Question 10 *2 marks*

Find the area of the triangle by using the formula **Area = $\frac{1}{2}$ × base × height.**



$A = \frac{b \times h}{2}$

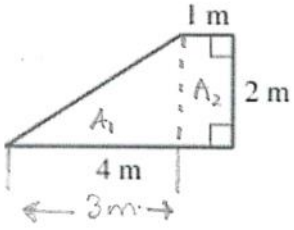
$A = \frac{52 \times 16}{2}$

$A = \frac{832}{2}$ $(\div 2)$

$A = 416cm^2$

Question 11 *3 marks*

Calculate the area by cutting the composite shape into a triangle and a rectangle.



A_1 is a triangle

$A_1 = \frac{b \times h}{2}$

$A_1 = \frac{3 \times 2}{2}$ $(\div 2)$

$A_1 = \frac{6}{2}$ $6 \div 2 = 3m^2$

A_2 is a rectangle

$A_2 = l \times w$

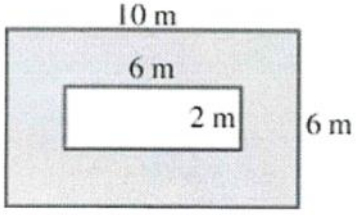
$A_2 = 2 \times 1$

$A_2 = 2m^2$

TOTAL AREA = $3+2=5m$

Question 12 *3 marks*

Find the area of the shaded part.



Area of Large Rectangle

$A = l \times w$

$A = 10 \times 6$

$A = 60m^2$

Area of Small Rectangle

$A = l \times w$

$A = 6 \times 2$

$A = 12m^2$

Area of Shaded Part

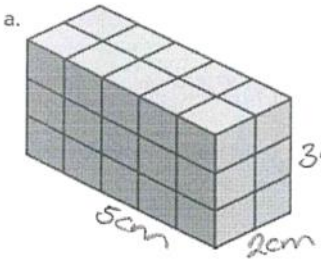
$60 - 12 = 48m^2$

Volume = Length x width x height

Question 13 ***1 mark***

a) Assuming that each cube represents 1 cm^3, find the volume of the following object in cm^3.

a.



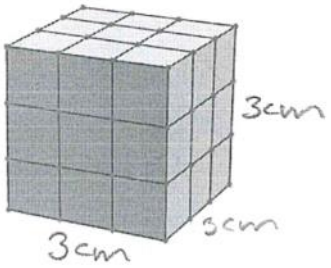
$V = L \times w \times h$

$V = 5 \times 2 \times 3$

$V = 30 cm^3$

1 mark

b) Find the volume of the rectangular prism. (Each small cube represents 1 cm^3.)



$V = L \times w \times h$

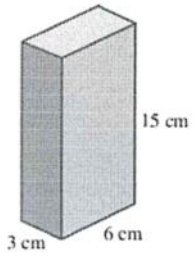
$V = 3 \times 3 \times 3$

$V = 27 cm^3$

Question 14 ***2 marks***

Find the volume of the rectangular prism by using the formula:

Volume = length × width × height



$V = L \times w \times h$

$V = 3 \times 6 \times 15$

$V = 270 cm^3$

Question 15 ***2 marks***

A rectangular prism has a volume of 480 cm^3. If its length is 12 cm and its width is 4 cm, what is its height? **Draw a diagram and show calculations.**

$V = L \times w \times h$

$480 = 12 \times 4 \times h$

$480 = 48 \times h \quad (\div 48)$

$V = \frac{480}{48}$

$V = 10 cm$

Question 16 *2 marks*

Bruno is knitting a scarf. If, at the end of Monday the scarf is 200 **mm** long and he can knit 15 **cm** in a day, how long is the scarf at the end of Saturday (in centimetres)? **(Hint: complete your calculations in one unit of measurement)**

15cm = 150mm

MONDAY - SATURDAY = 5 DAYS

TOTAL LENGTH = 200 + (5 × 150)

= 200 + 750

= 950mm or 95cm

Question 17 *2 marks*

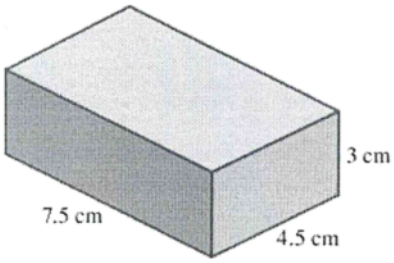
The following rectangle has an area of 18 km^2 and a perimeter of 18 km. Find another rectangle that has the same numerical value for both its area and its perimeter.

TRIAL + ERROR

Question 18 *2 marks*

The dimensions of a cereal box are 7.5 cm by 4.5 cm by 3cm.

(a) Find the volume of the cereal box shown below.



$V = l \times w \times h$

$V = 7.5 \times 4.5 \times 3$

$V = 101.25\ cm^3$

2 marks

(b) A large carton contains 14 boxes of the above cereal package. What is the volume of the large carton?

$V = 14 \times 101.25$

$V = 1,417.5\ cm^3$

Bonus Question: *2 marks*

What could be the dimensions of the large carton containing the 14 boxes of cereal?

(1) $V = 7.5 \times 4.5 \times (14 \times 3)$

$V = 7.5 \times 4.5 \times 42 = 1,417.5\ cm^3$

$L = 7.5cm$

$W = 4.5cm$

$H = 42\ cm$

(2) $V = 7.5 \times (14 \times 4.5) \times 3$

$V = 7.5 \times 63 \times 3 = 1,417.5$

$L = 7.5cm$

$W = 63cm$

$H = 3\ cm$

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