

## Year 5 Term 4 Homework

<b>Student Name:</b> _____	<b>Grade:</b> _____
<b>Date:</b> _____	<b>Score:</b> _____

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# 1 Year 5 Term 4 Week 1 Homework

## 1.1 Topic 1 — Area

### Exercise 1.1.1

1. A 3 cm wooden cube is painted red on all surfaces. Imagine that it is cut into 1 cm cubes.

(a) How many 1 cm cubes can be cut? \_\_\_\_\_

(b) How many cubes have paint on three faces? \_\_\_\_\_

(c) How many cubes have paint on two faces? \_\_\_\_\_

(d) How many cubes have paint on only one face? \_\_\_\_\_

(e) How many cubes are not painted at all? \_\_\_\_\_

2. One litre of paint will cover an area of 5 square metres. How many litres are needed to cover an area of 160 square metres?

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3. Alice designed a birthday card 18 cm by 12 cm. If a picture was to cover two-thirds of the card. How much space was left over for a verse?

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4. A school decided to construct a set of 8 hand ball courts with a dimension of 4m by 5m each. What amount of space is required for those courts?

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5. If the square has an area of  $256 \text{ m}^2$ , what is the perimeter?

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6. Find the surface area of a 3 m cube.

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**1.2 Topic 2 — Volume****Exercise 1.2.1**

1. Change the units in brackets:

(a)  $45000 \text{ cm}^3 = \text{_____} (\text{m}^3)$

(b)  $2\frac{5}{8} \text{ L} = \text{_____} (\text{m}^3)$

(c)  $5000000 \text{ cm}^3 = \text{_____} (\text{m}^3)$

(d)  $2.35 \text{ Litres} = \text{_____} (\text{cm}^3)$

(e)  $854 \text{ mL} = \text{_____} (\text{cm}^3)$

(f)  $1.28 \text{ Litres} = \text{_____} (\text{m}^3)$

(g)  $1258 \text{ cm}^3 = \text{_____} (\text{L})$

(h)  $1\frac{1}{8} \text{ m}^3 = \text{_____} (\text{mL})$

2. Find the volume in  $\text{m}^3$  of a cube with sides 60 cm.

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3. The dimensions of a rectangular tank are 68 cm long and  $\frac{3}{10}$  m wide. If a  $4\frac{1}{4}$  litre bucket is used to fill up the tank to the depth of 25 cm, how many full buckets were used?

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4. Find the missing numbers:

(a)  $1235000 \text{ cm}^3 - 280 \text{ mL} - \frac{1}{4} \text{ kL} = \text{_____} \text{ L.}$

(b)  $1.6 \text{ L} - 1.25 \text{ mL} + 0.0025 \text{ m}^3 = \text{_____} \text{ cm}^3.$

(c)  $1.5 \text{ m}^3 - \text{_____} \text{ L} - 65000 \text{ cm}^3 = 35 \text{ L.}$

5. A rectangular prism is made up of 140 cubes of side 1 cm. What is the minimum height of the prism if the sum of the length and breadth is 9 cm ?

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**1.3 Topic 3 — Ratio****Exercise 1.3.1**

1. Change 12.5 m/s to \_\_\_\_\_ ( km/h )
2. I spent  $\frac{1}{2}$  my money on books and  $\frac{1}{3}$  of what remained on pens and left me with \$25. How much did I have at the beginning?

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3. Find the total cost of 15 bags at \$2.55 per bag and 12 tins at \$4.80 per tin.

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4. Garden compost is sold in four different bag sizes. 2 kg for \$3.45, 3500 g for \$5.95, 6.5 kg for \$10.25 and 10 kg for \$15.00. Which represents the best value?

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5. The cooking time for lamb is 12 minutes for 400 g. How long will it take to cook a leg of lamb of mass 4.8 kg?

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6. To paint a fence, 250 mL of paint is need for every  $2\text{ m}^2$ . How much paint, in litres, will be needed to cover  $25\frac{2}{5}\text{ m}^2$  ?

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**1.4 Topic 4 — Rate****Exercise 1.4.1**

1. Change the following into the units shown in brackets:

- (a)  $3\frac{1}{6}$  hours = \_\_\_\_\_ (seconds)  
(b) 3.36 hours = \_\_\_\_\_ (seconds)  
(c) 3.15 hours = \_\_\_\_\_ (minutes)  
(d) 4.75 days = \_\_\_\_\_ (hours)  
(e) 52 weeks and 7 days = \_\_\_\_\_ (days)  
(f)  $6\frac{1}{3}$  years = \_\_\_\_\_ (months)  
(g) 48 km per hour = \_\_\_\_\_ (metre/minute)  
(h)  $\frac{24}{5}$  km/h \_\_\_\_\_ (metre/second)  
(i)  $1\frac{1}{4}$  metre/second \_\_\_\_\_ (km/h)

2. If a car covers 7 km in 5 minutes, at this rate, how long would it take to travel 280 km?

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3. A car runs 6 km on 500mL of petrol.

(a) What is the distance travelled on 65 L of petrol?

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(b) What is the cost of petrol to travel 390 km if petrol costs \$1.28 per litre?

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4. Find the total cost of 875 mm at \$48 per metre, 500 kg at \$52 per tonne, and 750 mL at \$7 per litre.

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### 1.5 Problem Solving (Guess and Check)

#### Exercise 1.5.1

1. There are total of 40 ducks and rabbits in the field. Altogether there is a total of 132 legs between them. How many rabbits are there?

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2. Peter is 3 years older than John. Three times Peter's age plus twice John's age is equal to 54. What are the ages of Peter and John?

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3. The sum of two numbers is 40 and the difference of these two numbers is 18. Find the smaller number.

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4. In the past 4 weeks a fine day occurred on 6 more days than the days on which it rained. How many days had bad weather?

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5. Five consecutive whole numbers have a sum of 125. What is the sum of smallest and largest number?

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6. Two numbers have a difference of 12 and their average is 19. What is the smaller number?

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7. There is a total of 24 dogs and chickens. If there are 80 legs altogether, how many dogs are there?

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**1.6 Test Paper 1****1.6.1 Part A**

1. Find the sum of 0.005,  $\frac{1}{2}$ , 0.125 and 2.25 = \_\_\_\_\_

2. Evaluate  $12.5 \div 4 =$  \_\_\_\_\_

3. Express 125 mL as a percentage of 2L. \_\_\_\_\_

4. What is the value of the 7 in the number 123.789? \_\_\_\_\_

5. What number must be placed in the box?  $35\% = \frac{42}{\square}$  \_\_\_\_\_

6. It takes 8 and a half seconds for a electric saw to cut through a log of wood. How many seconds would it take for the saw to cut the wood in to 7 equal pieces?

\_\_\_\_\_

\_\_\_\_\_

7. Write 72 as a product of its prime factors.

\_\_\_\_\_

8. Write the common factors of 45 and 60.

\_\_\_\_\_

\_\_\_\_\_

9. Find two numbers that multiply to give 40 and also add up to 13.

\_\_\_\_\_

\_\_\_\_\_

10. How many numbers between 0 and 70 are divisible by 3?

\_\_\_\_\_

\_\_\_\_\_

11. Find the HCF of 198 and 306.

\_\_\_\_\_

\_\_\_\_\_

12. Find the LCM of 32 and 24.

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**1.6.2 Part B**

1. Find two numbers such that their sum is  $\frac{1}{15}$  and their difference is  $\frac{1}{75}$ .

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2. The sum of a denominator and a numerator is 84 and their difference is 14. What is the proper fraction in its simplest form?

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3. Raymond is 3 years older than his sister Jessica, but 5 years younger than his brother Joe. If the sum of their ages is 35, how old is Joe?

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4. If the same number is subtracted from 520 and 360, the number left from 520 is  $1\frac{1}{2}$  times the amount of the other. What was the number subtracted?

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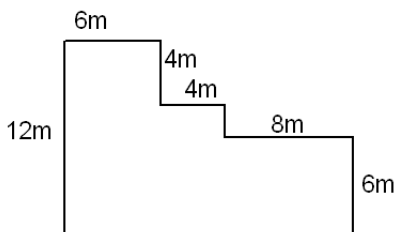
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1.6.3 Part C

1. Find the area of the following figure:

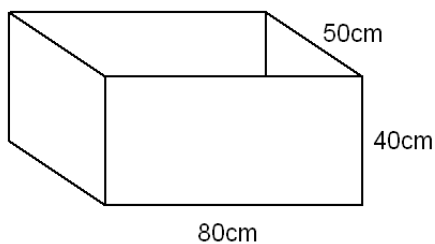


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2. Find the total surface area of the open-box shown below:



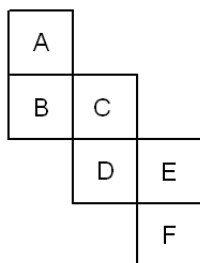
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3. The diagram is folded to make a cube. In making the cube, which face will be opposite to D?



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**1.6.4 Part D**

1. Suppose you enter an elevator at a certain floor. Then the elevator moves up 7 floors, down 5 floors, and up 3 floors. You are then at floor 9. At which floor did you initially enter the elevator?

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2. Suppose five days after the day before yesterday is Friday. What day of the week will tomorrow then be?

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3. A fisherman sold some of big fish at \$8 each and twice as many small fish at \$2 each. He received a total of \$156 for his fish sold. How many big fish and small fish did he sell?

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4. Last year, the ratio of the number of boys to girls in a tennis club is 3 : 2. This year 84 more girls join the club. There are now 3 times as many girls as boys. How many boys are there in the tennis club?

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**1.7 Miscellaneous Exercises****Exercise 1.7.1**

1. Find the missing numbers:

(a) 24% of 24 hours is \_\_\_\_\_ hours.

(b) 421.5 mL is 75% of \_\_\_\_\_ mL.

(c) 135 g of \_\_\_\_\_ is 15%.

(d)  $48 \text{ cm}^2$  is \_\_\_\_\_% of  $75 \text{ cm}^2$

(e) 62.5 % of \$800 is \_\_\_\_\_ .

2. A train is moving at the rate of 2 kilometres in 2 minutes and 30 seconds. If the train continues at this rate, how far will it travel in two hours?

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3. The four-digit number  $A34B$  is divisible by 9. What is the largest difference between A and B?

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4. The average of six numbers is 6. If one of the six numbers is removed, the average of the five remaining numbers is 5. What is the value of the number that was removed?

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5. The average of five numbers is 12. Suppose 30 is added to the five numbers. What is the average of the six numbers?

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**Exercise 1.7.2**

1. Richard went to a store and spent half of his money. He then went to a second store where he spent half of what remained, and had \$10 leftover. How much money did he have at the beginning?

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2. The product of two numbers is 108 and their quotient is 3. What are the numbers?

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3. Find the smallest of the five consecutive numbers whose sum is 50.

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4. Find the smallest of the five consecutive even numbers whose sum is 50.

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5. Find the largest of the five consecutive odd numbers whose sum is 55.

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6. Five times a number is decreasing by 5 the result is 25. What is the number?

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