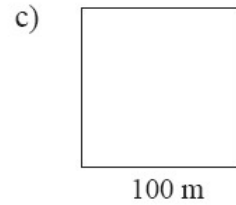
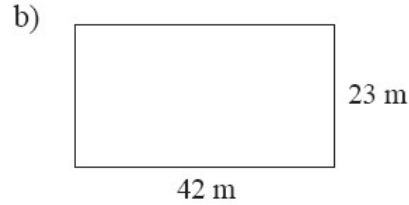
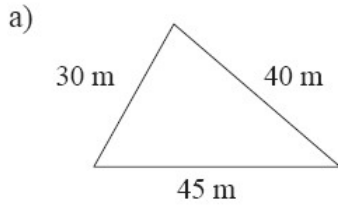


## 6 Year 5 Term 2 Week 6 Homework

### 6.1 Topic 1 — Measurement (Length)

1. What length of fence (including the gate) is needed to enclose each of these gardens?



(a) Perimeter: \_\_\_\_\_

(b) Perimeter: \_\_\_\_\_

(c) Perimeter: \_\_\_\_\_

2. Calculate the perimeter of a rectangle if:

(a) one side is 17 cm and the other is 38 cm,  $P =$  \_\_\_\_\_

(b) one side is 2 m 10 cm and the other is 130 cm,  $P =$  \_\_\_\_\_

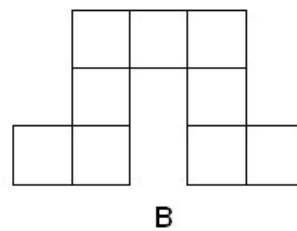
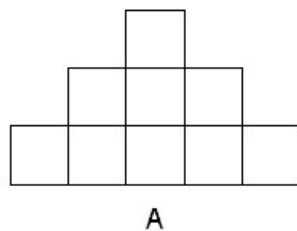
(c) each side is 37 cm,  $P =$  \_\_\_\_\_

3. A rectangle is 18 cm long and 8 cm wide. What is the length of the side of the square whose perimeter is the same as that of the rectangle?

\_\_\_\_\_

\_\_\_\_\_

4. The small boxes in the figure shown below are congruent squares. The perimeter of Figure A is 96 cm. What is the perimeter of Figure B?



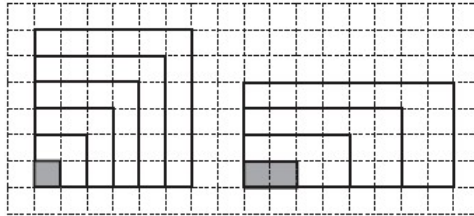
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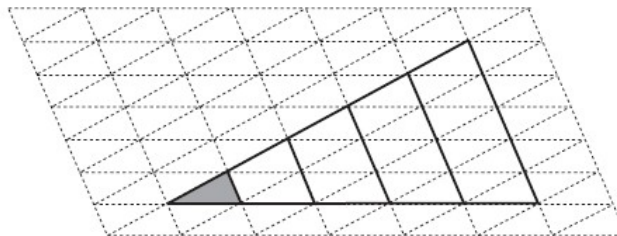
### 6.2 Topic 2 — Measurement (Area)

1. How does the area of a polygon change if each side is enlarged by the same number of times? (In each part, the shaded shape is 1 unit).

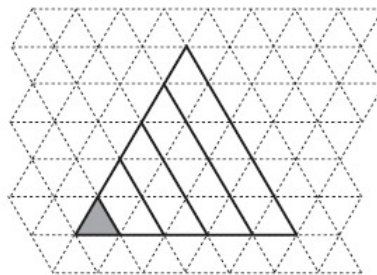
(a) If each side is enlarged 3 times. The area will be enlarged \_\_\_\_\_ times.



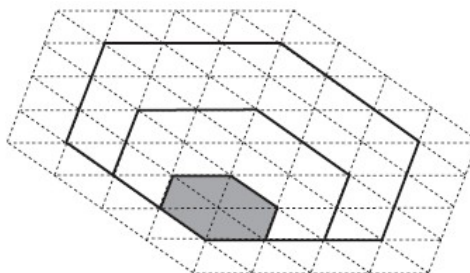
(b) If each side is enlarged 5 times. The area will be enlarged \_\_\_\_\_ times.



(c) If each side is enlarged 4 times. The area will be enlarged \_\_\_\_\_ times.



(d) If each side is enlarged 3 times. The area will be enlarged \_\_\_\_\_ times.



**6.3 Topic 3 — Measurement (Volume)**

1. Peter has already made the base layer of a cuboid from unit cubes. If Peter has 72 unit cubes, how high can he build his cuboid?



(a) Number of unit cubes in base: \_\_\_\_\_

(b) Number of layers: \_\_\_\_\_

(c) Height of cuboid: \_\_\_\_\_

2. Calculate the volume of each of these cuboids of the length of its edges in units are:

(a)  $a = 8$  cm,  $b = 5$  cm and  $c = 6$  cm.

\_\_\_\_\_  
 \_\_\_\_\_

The volume is: \_\_\_\_\_

(b)  $a = 5$  cm,  $b = 5$  cm and  $c = 10$  cm.

\_\_\_\_\_  
 \_\_\_\_\_

The volume is: \_\_\_\_\_

(c)  $a = 9$  cm,  $b = 5$  cm and  $c = 12$  cm.

\_\_\_\_\_  
 \_\_\_\_\_

The volume is: \_\_\_\_\_

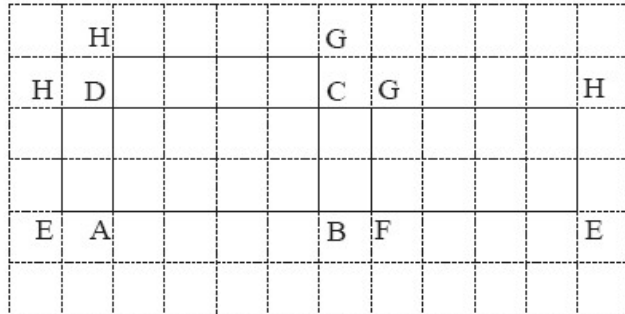
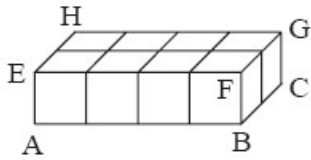
3. The area of the surface of a cube is  $150\text{ cm}^2$ . What is its volume in centimetre cubes ( $\text{cm}^3$ )?

\_\_\_\_\_  
 \_\_\_\_\_

The volume is: \_\_\_\_\_

### 6.4 Topic 4 — Measurement (Surface Area)

1. Complete the drawing of the net. Calculate the area of each face and the surface area of the cuboid.



(a) ABCD \_\_\_\_\_

(b) EFGH \_\_\_\_\_

(c) ABFE \_\_\_\_\_

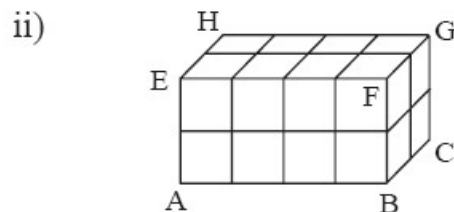
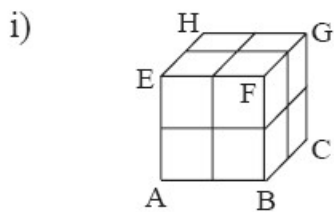
(d) DCGH \_\_\_\_\_

(e) ADHE \_\_\_\_\_

(f) BCGF \_\_\_\_\_

(g) Total surface area: \_\_\_\_\_

2. Find the surface area of the following cuboids:



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

i) \_\_\_\_\_

ii) \_\_\_\_\_

3. Calculate the surface area of each cuboid if a, b and c are the lengths of its edges:

(a)  $a = 5 \text{ cm}$ ,  $b = 10 \text{ cm}$  and  $c = 3 \text{ cm}$ .

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Total surface area: \_\_\_\_\_

(b)  $a = 8 \text{ m}$ ,  $b = 7 \text{ m}$  and  $c = 10 \text{ m}$ .

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Total surface area: \_\_\_\_\_

(c)  $a = 1 \text{ m}$ ,  $b = 2 \text{ m}$  and  $c = 7 \text{ m } 50 \text{ cm}$ .

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Total surface area: \_\_\_\_\_

4. A box is shaped like a cuboid but is open at the top. Inside, it is 1.4 m long 1 m wide and 80 cm high. What is its inner surface area?

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Inner surface area: \_\_\_\_\_

5. Calculate the surface area of a small box which has these measurements:

$a = 5 \text{ cm}$ ,  $b = 17 \text{ mm}$  and  $c = 4.3 \text{ cm}$

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Total surface area: \_\_\_\_\_

### 6.5 Problem Solving (Working Backwards)

1. Each morning William takes 12 minutes to shower and get dressed, 15 minutes to have breakfast, 8 minutes to clean up and pack his bag and 7 minutes to walk to the bus stop. His bus leaves at 8:30 a.m. At what time should he set his alarm clock to be sure he has 3 minutes to spare at the bus stop?

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2. Carol spent three-quarters of her money and saved half of what was left. She then had \$12 in her pocket. How much money did Carol originally have?

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3. Jeffrey spent half his money at a concert. He then went to have a snack and spent a quarter of what was left. After that he had only \$18 in his pocket. What fraction of his money did he spend?

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4. Jessica went to a store, spent two-thirds of her money and then \$10 more. She went to a second store, spent half of her remaining and then \$10 more. But she then had no money left. How much money did she start shopping with?

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**6.6 Test Paper 6****6.6.1 Part A — 10 Multiple Choice Questions (1 mark each)**

- Evaluate  $1.2 \div 0.3$   
(A) 4.0                      (B) 0.4                      (C) 40                      (D) 0.04
- It takes  $3\frac{1}{3}$  seconds for an electric saw to cut through a log of wood. How many seconds would it take for the saw to cut the wood into 7 equal pieces?  
(A) 12                      (B)  $14\frac{1}{2}$                       (C) 18                      (D) 20
- Which of the following will simplify to give the smallest number?  
(A)  $1.2 + 0.3$                       (B)  $1.2 - 0.3$                       (C)  $1.2 \times 0.3$                       (D)  $1.2 \div 0.3$
- Evaluate  $200 \div (5 \times 2) + (75 - 60)$   
(A) 23                      (B) 35                      (C) 45                      (D) 8
- $\square \div 24 = 132$ . What is the missing number in the box?  
(A) 3,168                      (B) 3,268                      (C) 528                      (D) 21,168
- Find the missing mixed number in  $4\frac{2}{5} + \square = 9\frac{5}{6}$ .  
(A)  $6\frac{6}{15}$                       (B)  $13\frac{7}{30}$                       (C)  $6\frac{13}{30}$                       (D)  $5\frac{13}{30}$
- Express 3.456 as a fraction in its simplest form.  
(A)  $3\frac{114}{250}$                       (B)  $3\frac{456}{1000}$                       (C)  $3\frac{238}{500}$                       (D)  $3\frac{57}{125}$
- $9.25 \text{ km} - 1230 \text{ m} = \underline{\hspace{2cm}}$ .  
(A) 8.1 km                      (B) 8020 m                      (C) 820 m                      (D) 8.12 km
- Express  $\frac{3}{8}$  of a day in hours.  
(A) 7 hours                      (B) 8 hours                      (C) 9 hours                      (D) 10 hours
- The perimeter of a field is 60 m. Its length is twice that of the breadth. Find its length.  
(A) 10 m                      (B) 20 m                      (C) 25 m                      (D) 35 m

**6.6.2 Part B — 10 Average Questions (2 marks each)**

1. What is the value of  $5 + 4 \times (5 + 4)$

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2. I walked 3 km in the direction of SE and then 3 km in the direction SW In what direction must I walk in order to return to the point I started from?

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3. What is the smallest number which is divisible by 18, 24 and 36?

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4. A container in the shape of a rectangular prism, measures 15 cm by 20 cm by 25 cm. How many litres of water would it hold?

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5. I spent half my money on tickets and one third of what I had left on food. That left me with \$6. How much did I start out with?

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6. As a project, we are asked to divide the courtyard into 25 congruent squares. The courtyard was itself a square with sides of 20m. What is the perimeter of each small square?

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7. How many revolutions does a wheel of circumference of 2.8 m make in travelling 140 m?

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8. If a certain amount of money is shared equally between 6 people, there is \$2 left over. If the same amount is shared equally between 7 people, there is also \$2 left over. What is the original amount of money in dollars?

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9. A rectangular carpet 3.5 m by 4 m is on the floor of a room 4.5 m by 6 m. Find the uncovered area.

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10. John earns \$52,000 each year. If he saves \$225 each week, how much does he spend each week?

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**6.6.3 Part C — 10 Extension Questions (3 marks each)**

1. A cube is built from sixty-four 1 cm cubes, so its volume is  $64 \text{ cm}^3$ . What is its surface area in centimetre squares ( $\text{cm}^2$ )?

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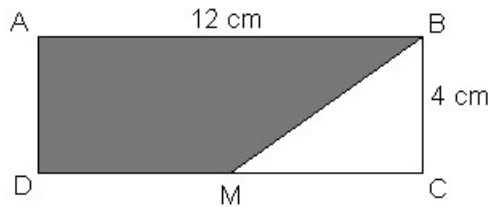


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2. In the figure shown below, M is the mid-point of the side CD of the rectangle. What is the size of the shaded area?




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3. If  $\frac{2}{3}$  of a number is 24, then  $\frac{3}{8}$  of the same number is:

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4. 14 men on a desert island have enough food for 30 days. How many days should the same food last 20 men?

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5. A shopkeeper sold three 17" LCD monitors and two laser printers for a total of \$1300. The price of a printer was  $\frac{2}{3}$  that of the monitor. Find the cost of each monitor.

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6. Ken is 12 cm taller than Carol and David is 18 cm shorter than Carol. If the average of their heights is 132 cm, how tall is Ken?

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7. The perimeter of an isosceles triangle whose base is 12 cm is 45 cm. Find the length of one of the equal sides of the triangle.

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8. The area of a rectangle is  $\frac{57}{2}m^2$  The length of a side is 6 m. Find the perimeter of the rectangle.

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9. One side of a rectangle is 2.35 m in length. The adjacent side is twice as long. What is its perimeter?



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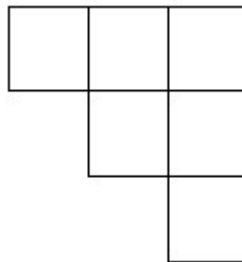
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10. The area of a square is numerically equal to its perimeter. If 6 of these squares are joined together as shown in the diagram, What would be its perimeter?



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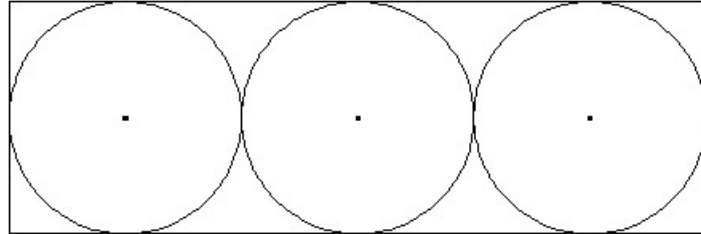
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**6.6.4 Part D — 8 Challenging Questions (5 marks each)**

1. Three circles fit exactly into a rectangle. The radius of one of the circles is 8 cm. Find the area of the rectangle in  $cm^2$ .



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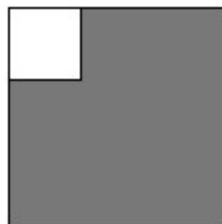
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2. The diagram shows two squares. The smaller square has sides of 4 cm and the shaded area equals 8 times the area of the smaller square. Find the area of the large square.



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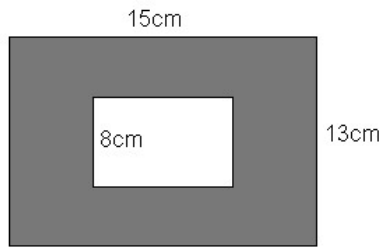
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3. The shaded area between the two rectangles has an area of  $99 \text{ cm}^2$ . If all measurements are in centimetres, find the length of the smaller rectangle.



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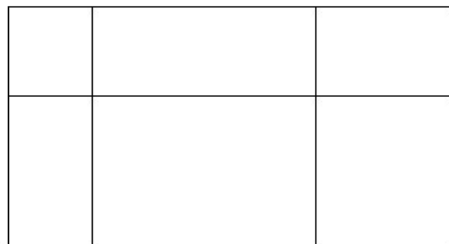
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4. A rectangular piece of cardboard measures 15 cm by 8 cm. it is cut into 6 pieces along the lines shown in the diagram. What would be the sum of the perimeters of the pieces in centimetres?



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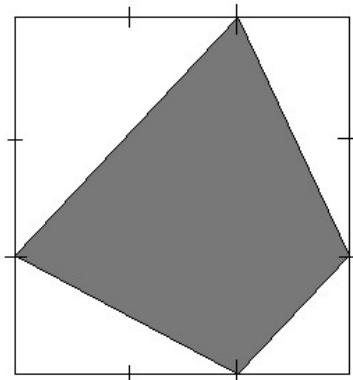
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5. What part of the whole unit is shaded? Write your answer in fraction.




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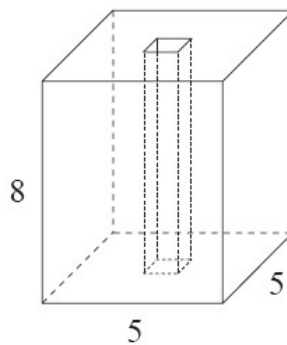


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6. The solid shown below has a 1 unit square hole bored right through its centre.



(a) How many unit cubes would be needed to build the solid?

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(b) What is its surface area?

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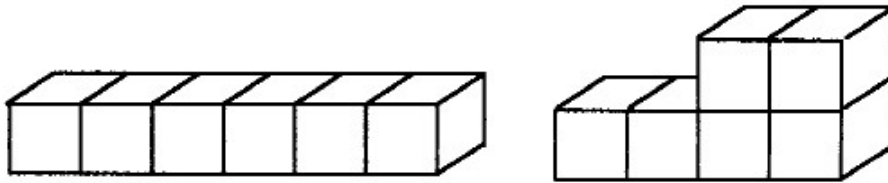


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7. Six cubes each of side 2 cm can be arranged in two different ways as shown in the diagram below. What would be the difference in the surface area of the two configurations?



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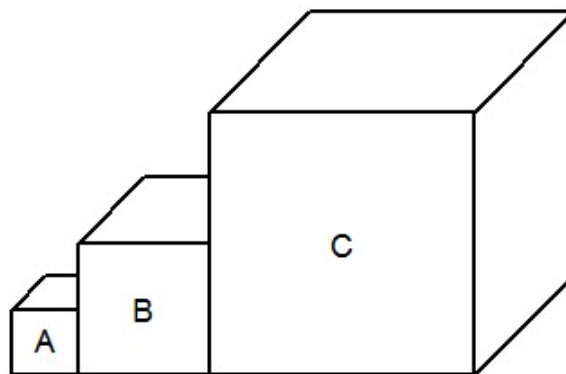
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8. Three cubes A, B and C are shown in the diagram below. The lengths of the sides of cube B are twice those of cube A and the lengths of the sides of cube C are twice those of cube B. If the volume of cube A is  $64 \text{ cm}^3$ , find the surface area of cube C in  $\text{cm}^2$ .



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