

## 8 Year 5 Term 2 Week 8 Homework

### 8.1 Topic 1 — Length and Area

#### Exercise 8.1.1

1. A garden 8 m by 3.5 m is to have a path 1 m around its border. If the garden is rectangular in shape, find:

(a) The area of the garden

\_\_\_\_\_

(b) The total area of the garden and path.

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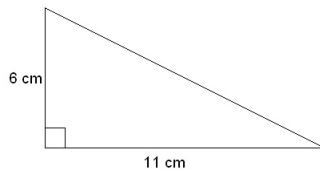
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(c) The area of the path.

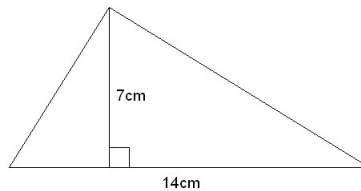
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2. Find the area of each of the following triangles:

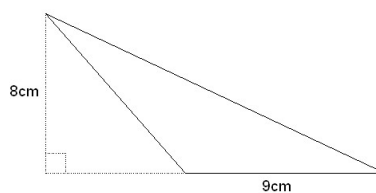
(a) Area: \_\_\_\_\_



(b) Area: \_\_\_\_\_



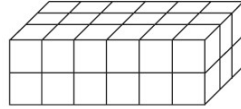
(c) Area: \_\_\_\_\_



### 8.2 Topic 2 — Surface Area and Volume

**Exercise 8.2.1** The solids are made from 1 cm cubes. Calculate their surface area and volume:

1. Volume: \_\_\_\_\_  $cm^3$ , Area: \_\_\_\_\_  $cm^2$




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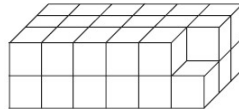


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2. Volume: \_\_\_\_\_  $cm^3$ , Area: \_\_\_\_\_  $cm^2$




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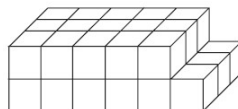


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3. Volume: \_\_\_\_\_  $cm^3$ , Area: \_\_\_\_\_  $cm^2$




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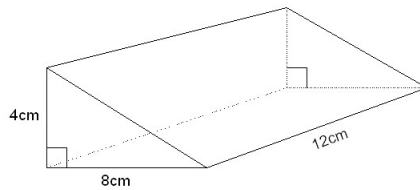


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**Exercise 8.2.2** Find the volume of the following triangular prism.




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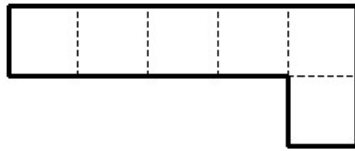


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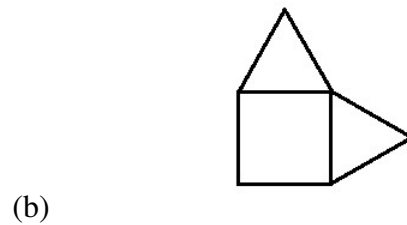
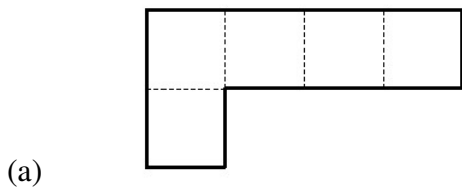
### 8.3 Topic 3 — 3-D Figures

#### Exercise 8.3.1

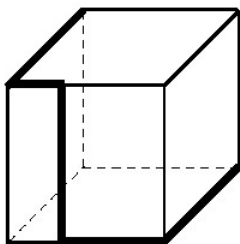
1. Can this net be folded to form a cube? \_\_\_\_\_



2. Complete each net so that it can be folded to form a solid:



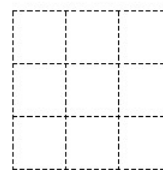
3. A thick black line has been drawn on the surface of a transparent glass cube. Draw the 3 views of the line.



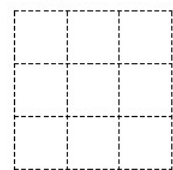
Front view



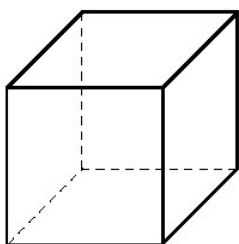
Side view



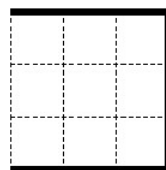
Top view



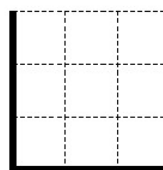
4. Draw a line on the surface of the glass cube to match the 3 view shown below.



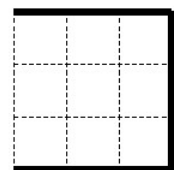
Front view



Side view



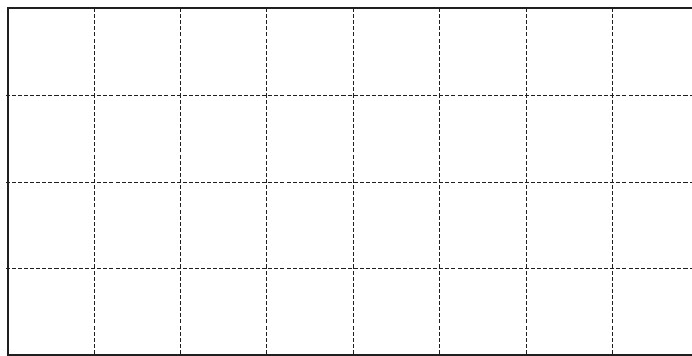
Top view



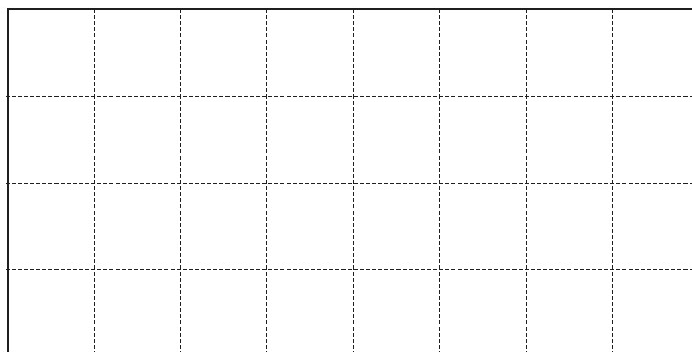
## 8.4 Topic 4 — 2-D Figures

### Exercise 8.4.1

1. The diagram shows the scale drawing of a garden. (Scale: 1 cm : 1 m). Garden sprinklers can water an area of soil up to 2 m in any direction. They are always positioned so that they reach as much of the garden as possible.
  - (a) Show on the diagram where 2 sprinklers should be placed.
  - (b) Colour green the points reached by the sprinklers.
  - (c) Colour brown the points can not reached by the sprinklers.



2. The diagram shows the scale drawing of a garden. (Scale: 1 cm : 1 m). Garden sprinklers can water an area of soil up to 2 m in any direction. They are always positioned so that they reach as much of the garden as possible.
  - (a) Show on the diagram where 3 sprinklers should be placed.
  - (b) Colour green the points which are reached just one sprinkler.
  - (c) Colour blue the points reached by more than one sprinkler.
  - (d) Colour brown the points can not reached by the sprinklers.



### 8.5 Problem Solving (Number Problems)

#### Exercise 8.5.1

1. Three times a number equals 16 less than seven times the number. What is the number?

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2. The difference of two numbers is 17. The larger number is 2 more than four times the smaller number. What are the numbers?

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3. One of two numbers is two-fourths of the other number. The sum of the numbers is 6. Find the numbers.

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4. The sum of two numbers is 22. One number is four less than the other. Find the numbers.

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5. The product of two numbers is 36. One number is five less than the other. What are the numbers?

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6. The sum of two numbers is 45. The large number is eight times the smaller number. What are the numbers?

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7. Nine times the difference of 12 minus a number is 36. What is the number?

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8. The sum of two numbers is 21. The difference of the same two numbers is three. Find the numbers.

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9. Two times a number equals 24 less than six times the number. What is the number?

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10. The difference of two numbers is 72. The larger number is 8 more than nine times the smaller number. What are the numbers?

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**8.6 Test Paper 8****8.6.1 Part A — 10 Multiple Choice Questions (1 mark each)**

- Which number am I thinking of if it is greater than 20 but less than 30, it is even and exactly divisible by 3?  
(A) 21                      ( B ) 24                      ( C ) 28                      ( D ) 30
- How long will it take Steven to walk 2 kilometres if he walks 40 metres in 30 seconds?  
(A) 250 minutes              ( B ) 25 minutes              ( C ) 28 minutes              ( D ) 800 seconds
- If  $1\frac{1}{2}$  kg of biscuits cost \$6, How much will 2000 g of biscuits cost?  
(A) \$5                      ( B ) \$8                      ( C ) \$10                      ( D ) \$12
- $32 = \boxed{?} \times 5 - 3$ . Find the missing number in the box.  
(A) 7                      ( B ) 9                      ( C ) 15                      ( D ) 16
- Mary can make 75 ribbons in 15 minutes. At this rate, find the time taken to make 100 ribbons.  
(A) 20                      ( B ) 25                      ( C ) 30                      ( D ) 35
- If a  $2\frac{1}{4}$  hour movie starts at 10:55 am, it should finish at:  
(A) 12:10 p.m.              ( B ) 1: 10 pm              ( C ) 1:10 a.m              ( D ) 1:05 p.m.
- John has one 10-cent coin, one 20-cent coin and one 50-cent coin. How many different amounts of money can he make?  
(A) 3                      ( B ) 5                      ( C ) 7                      ( D ) 9
- If tomorrow is Sunday, what day was it 9 days ago?  
(A) Saturday              ( B ) Monday              ( C ) Tuesday              ( D ) Thursday
- If  $\frac{1}{8}$  of a number is 3, find the number.  
(A) 12                      ( B ) 8                      ( C ) 4                      ( D ) 24
- Anna saves 75 cents of her pocket money each week. How many weeks will it take her to save \$8 to buy a present for her mum?  
(A) 7                      ( B ) 9                      ( C ) 10                      ( D ) 11

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

**Exercise 8.6.1**

1. *The sum of two numbers is 11. One number is seven less than the other. Find the numbers.*

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2. *The greater of two numbers is 2 less than two times the smaller number. Their sum is 16. Find the numbers.*

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3. *Three times the difference of 9 minus a number is 18. What is the number?*

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4. *One of two numbers is one-half of the other number. The sum of the numbers is 12. Find the numbers.*

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5. *Four times the sum of a number and four times the number is 180. Find the number.*

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6. Two times a number equals 6 less than five times the number. What is the number?

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7. The product of nine and some number is equal to the sum of that number and 16. What is the number?

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8. The sum of two numbers is 24. The larger number is seven times the smaller number. What are the numbers?

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9. One number is ten more than another number. The sum of the larger number and twice the smaller number is 19. Find the numbers.

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10. The sum of two numbers is 15. The difference of the same two numbers is three. Find the numbers.

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

**Exercise 8.6.2**

1. *Jeffrey travels overseas, the exchange rate between Australian and US dollars is  $A\$1.00 = US\$0.84$ . If Jeffrey signed up for a bus tour of  $US\$160$ , how much is this costing him in Australian dollars?*

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2. *A rectangular prism has dimensions 4 cm by 5 cm by 6 cm.*

*(a) What is its volume?*

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*(b) If each of the dimensions are doubled, What would be its volume?*

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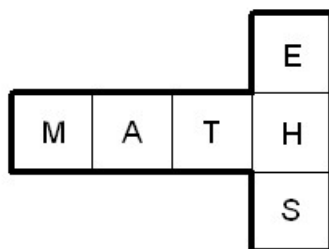


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3. *The figure shown below is cut out around the thick outer lines and folded on the thin inner lines to form a cube. Which letter on the face of the cube will be opposite the letter H?*




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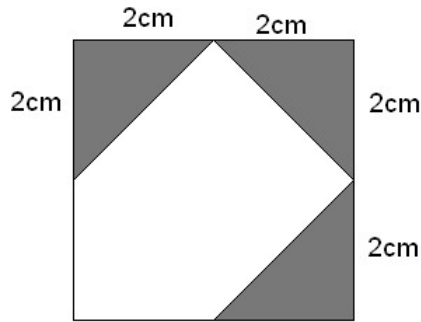


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4. What fraction of the square below is shaded?



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5. A bottle of cough mixture is  $\frac{5}{12}$  full. When 75 mL is poured out, the container becomes  $\frac{1}{3}$  full. Find the capacity of the container.

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6. On a map, a length of 4 centimetres represents an actual distance of 12 kilometres. How many kilometres apart are two towns which are drawn as  $5\frac{1}{3}$  centimetres apart on the map?

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7. If it takes 5 men 12 days to do a piece of work, how long would it take 6 men working at the same rate?

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8. If  $1\frac{1}{3}$  hour TV program starts at 7:50 p.m. What time should it finish?

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9. A rectangle has an area of  $600\text{ cm}^2$  and sides in centimetres which are multiples of 5. How many different rectangular shapes satisfy this condition?

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10. A farmer sold some watermelons at \$4 each and twice as many pineapples at \$1 each. He received a total of \$72. How many watermelons did he sell?

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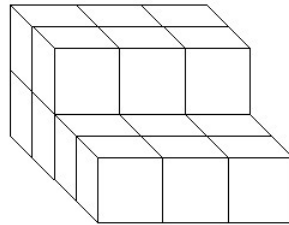
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**8.6.4 Part D — 8 Challenging Questions (5 marks each)**

**Exercise 8.6.3**

1. William has made this shape by attaching some unit-cubes together.



(a) How many cubes did William use to make this shape?

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(b) How many more cubes does William need to add to this shape to form a cube with sides of 4 cm?

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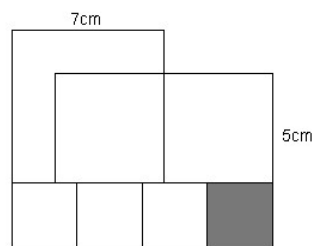


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2. All the shapes shown below are squares. Find the shaded area of smallest square.




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3. Jane has more than 28 marbles but less than 50. When the marbles are counted by 3, there is one left over. When they are counted by 5, there are two left over. How many marbles does Jane have?

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4. If a timber worker can chop a log into three pieces in 12 minutes, at the same rate how long will he take to chop another log of the same diameter into 5 pieces?

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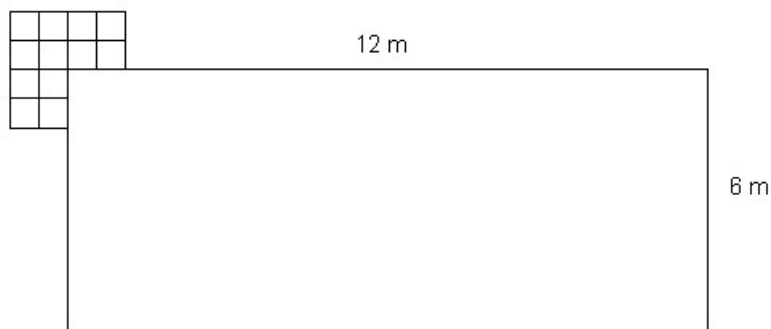
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5. 50 cm by 50 cm concrete slabs are laid around a large rectangular swimming pool. How many slabs are needed altogether to completely surround the pool?



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6. Amy weighed herself and her cat. If the cat is one eighth of Amy's mass and together they weighed 54 kg. How much does Amy weigh?

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7. Bell A rings every 8 minutes, while bell B rings every 14 minutes. If the two bells have just rung together at 1:30 p.m, what time will they next ring together?

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8. A jar containing one hundred marbles weighs 1.5 kg. If the jar weighs 330g when empty, what is the weight of 20 marbles?

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