# Nguzu Nguzu
# Mathematics

## Pupil's Resource Book 1

## Standard 5

First Edition 2005

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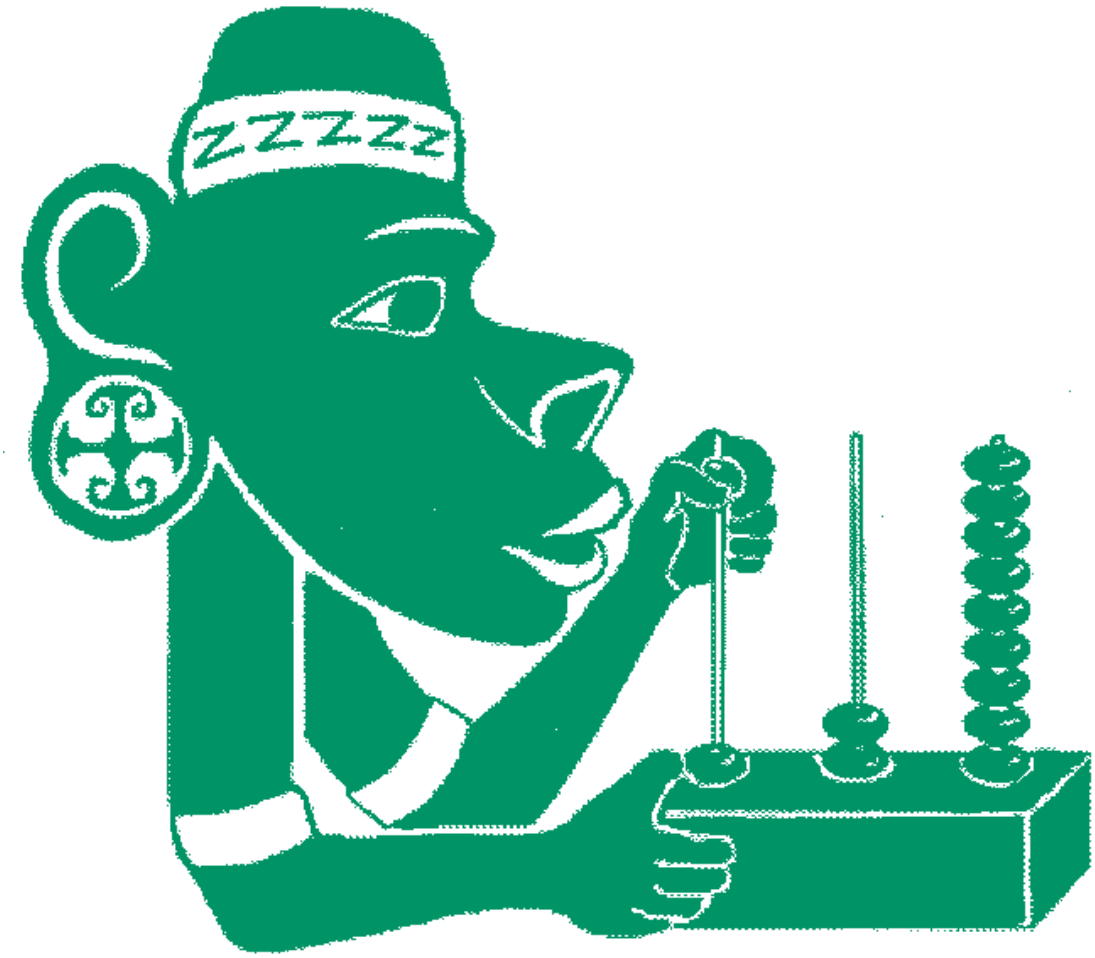
# Nguzu Nguzu Mathematics
# Pupil's Resource Book
# Standard Five

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## Contents

# Unit 1

## 1a Reading and Writing Numbers

**Activity A**

**Read these numbers. Can you write them using digits?**

**The first one has been done for you.**

**1.** nine thousand, four hundred and twenty-six = **9,426**
**2.** ninety-nine thousand, seven hundred and eleven
**3.** seventy-two thousand, one hundred and fifty-eight
**4.** forty-three thousand, three hundred and thirty-three
**5.** seventy-one thousand, six hundred and fifty-nine


**Now write these numbers in words.**

**6.** 5,123 **7.** 45,751 **8.** 55,879 **9.** 23,592 **10.** 99,676

**Activity B**

**Write these numbers in figures.**

**1.** eighty-one thousand, four hundred and thirty-one
**2.** thirty thousand, seven hundred and twenty-four
**3.** sixty-one thousand and three
**4.** thirteen thousand and thirty
**5.** ninety-nine thousand and forty


**Write out these numbers in words.**

**6.** 62,019 **7.** 74,100 **8.** 90,040 **9.** 50,707 **10.** 80,008

**Activity C**

**Draw a place value chart like the one below in your exercise book.**

| ten thousands | thousands | hundreds | tens | ones |
|---|---|---|---|---|
| 9 | 2 | 3 | 4 | 6 |
| | | | | |

**1. Read these numbers and fill in the place value chart correctly. The first one has been done for you.**

**a.** ninety-two thousand, three hundred and forty-six

**b.** fifty-one thousand, two hundred and six

**c.** ninety thousand and seventeen

**d.** twenty-two thousand, nine hundred and thirty-seven

**e.** eighty thousand and one

**2. Look at your place value chart. Answer these questions.**

**a.** How many hundreds are there in the first number?

**b.** How many tens are there in the second number?

**c.** How many ones are there in the third number?

**d.** How many ten thousands are there in the fourth number?

**e.** How many hundreds are there in the fifth number?

## 1c Place Value

**Activity A**

**Here is a set of 6 numbers.**

| 7 | 9 | 2 | 1 | 4 | 3 |
|---|---|---|---|---|---|

1. Write the largest number you can using these digits.
2. Write the number you have made in words.
3. Write the smallest number you can using all the digits.
4. Write the number you have made in words.

**Activity B**

**Here are 6 digits.**

| 4 | 9 | 2 | 1 | 5 | 8 |
|---|---|---|---|---|---|


1. Arrange them to make a number where there are 1,245 **hundreds.**
2. What is the largest number you can make using all these digits?
3. Make the smallest number you can which has 518 **thousands** in it.
4. Make the largest number you can which has 12 **ten thousands** in it.
5. Make the smallest number you can which has 4 **hundred thousands** in it.

# Unit 1

**Look at this number.**

| 9 0 0, 0 0 6 |
|---|

6. How many **ones** are there in this number?
7. How many **hundreds** are there?
8. How many **ten thousands** are in this number?
9. How many **tens** are there?
10. How many **millions** are there in this number?

**Activity C**

**Here are 6 digits.**

| 7 | 3 | 0 | 9 | 1 | 8 |
|---|---|---|---|---|---|

1. Make the smallest number you can using all the digits.
2. What is the difference between the smallest and the largest number you can make?
3. How many **ones** do you need to add to the largest number to make one million?
4. How many **ones** do you need to add to the smallest number to make half a million?

**Look at this number**

| 7 5 0, 8 7 6 |
|---|

5. How many **thousands** are there in this number?
6. How many **ones** do you need to add to make 800,000?
7. How many do you need to take away to make a quarter of a million?

## 2a Greater Than and Less Than

**Activity A**

**Read each number and write it in your exercise book using digits.**

1. three hundred
2. three thousand
3. thirty thousand
4. three hundred thousand
5. one million
6. one hundred and twenty-six
7. one hundred and twenty-six thousand
8. eight hundred and fifteen
9. eight hundred and fifteen thousand
10. eighty-one thousand, five hundred

**Reminder**

When writing a number use commas to separate thousands and hundreds.

**Write these numbers in words.**

**11.** 550 **12.** 55,000 **13.** 550,000 **14.** 5,000,000

**15.** 75,000 **16.** 432,400 **17.** 227,150 **18.** 340,122

**Activity B**

**Copy these numbers. Look at the example. Show which is greater than and which is less than by using the signs < and >.**

**1.** 125,000 376,000

**2.** 225,009 225,000

**3.** 100,999 99,999

**4.** 876,234 876,243

**5.** 325,089 325,809

**6.** 709,322 709,099

| **For example** |
| --- |
| 325,000 **is greater than** 324,500<br>We write 325,000 **>** 324,500<br><br>324,500 **is less than** 325,000<br>We write 324,500 **<** 325,000 |

**Compare these numbers. Write them as digits in your exercise book using < and >. The first one has been done for you as an example.**

**7.** 423,789 and four hundred and twenty-three thousand, seven hundred and nineteen
**Answer: 423,789 > 423,719**

**8.** seventy thousand, four hundred and eighty-six and 74,486

**9.** 899,111 and eight hundred and seventy-nine thousand

**10.** seventeen thousand, and four and 17,014

**11.** 655,099 and six hundred and five thousand and ninety-nine

**12.** three hundred and sixty thousand and twelve and 603,120

**Activity C**

**1. Look at these two numbers.**
696,900 and six hundred and ninety-nine thousand, six hundred.
Add 400 to the highest number. What is your new number?

**2.** If you take fifty away from 867,944, what is the answer?

**3.** Look at the number 997,999. How many must you add to this number to make one million?

**4.** If I have one million dollars and I spend $555,555 how much have I left?

**5.** My water tank contains seventy-five thousand and twenty-five litres of water. If I use 225 litres of water a day do I have enough water to last a whole year? Explain why?

# Unit 1

## 2b Rounding Off

### Activity A

**Round off to the nearest ten**

**1.** 126
**2.** 3,647
**3.** 23,233
**4.** 700,881
**5.** 654,555

**Round off to the nearest hundred**

**6.** 126
**7.** 3,647
**8.** 23,233
**9.** 700,881
**10.** 654,555

**Round off to the nearest thousand**

**11.** 126
**12.** 3,647
**13.** 23,233
**14.** 700,881
**15.** 654,555

### Activity B

**Round off these numbers to the nearest hundred.**

**1.** three hundred and fifty thousand, four hundred and sixty-nine
**2.** eight hundred and twenty-two thousand, five hundred and thirteen
**3.** one hundred thousand, seven hundred and fifty-five
**4.** five hundred and thirty thousand nine hundred and seventy-nine
**5.** nine hundred and ninety-nine thousand nine hundred and seventy

### Activity C

**Round off these numbers to the nearest ten, hundred and thousand.**

**1.** 766,809
**2.** 101,409
**3.** 99,587
**4.** 667,322
**5.** 356,500

**6.** 110,224
**7.** 232,788
**8.** 999,671
**9.** 900,347
**10.** 1,000,500

**Quick Tip**

Rounding off is a good way to get an estimate before doing a calculation.

**11.** twenty-six thousand, five hundred and fourteen

**12.** nineteen thousand, eight hundred and sixty-eight

**13.** ninety thousand, three hundred and fifty-four

**14.** seven hundred and seventy-seven thousand

**15.** twenty-five thousand and three

# 1b Negative Numbers

## Activity A

**Draw a number line from -6 to +6.**

**Use the number line to find the answers to these calculations.**

**1.** 3 – 6 =
**2.** -6 + 4 =
**3.** -4 + 4 =
**4.** -5 + 8 =
**5.** 2 – 5 =
**6.** 2 - 7 =
**7.** 6 - 11 =
**8.** 1 - 5 =
**9.** -3 + 8 =
**10.** 0 - 6 =
**11.** -6 + 9 =
**12.** 6 - 6 =

## Activity B

**Use a number line to help you work out these calculations.**

**1.** 4 + 6 =
**2.** -1 + (-2) =
**3.** -1 + (-1) + (-1) =
**4.** -2 + (-1) + (-3) + (-4) =
**5.** 4 + (-3) =
**6.** -7 + 7 =
**7.** 5 + (-8) + (-1) =
**8.** -15 + (-25) =
**9.** 99 + (-98) =
**10.** -101 + 99 =

**Copy these magic squares into your exercise book. Fill in the missing numbers.**

| | | |
|---|---|---|
| -9 | -10 | |
| | - 8 | |
| | - 6 | |

| | | |
|---|---|---|
| -1 | | - 3 |
| | | 2 |
| | | 1 |

**Remember!**
In a magic square all the rows, columns and diagonals add up to give the same answer.

## Activity C

**1.** Mr. Hinge was on a diet. He wanted to lose 6kg.
He weighed himself at the clinic every week.
He recorded his loss and gain in grams each week for ten weeks. Did he reach his goal?

**Hint**
Draw a number line and mark on Mr. Hinge's starting weight as 0 (zero).

| Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 |
|---|---|---|---|---|---|---|---|---|---|
| lost 870 | lost 800 | lost 650 | gained 500 | lost 750 | lost 940 | lost 1,500 | gained 825 | lost 650 | lost 845 |

# Unit 1

**2. Find the Sets**

Find a set of 3 cards whose sum is zero.
Write the three numbers in your exercise book as shown

**a)** -12, 22, -10.

Find as many sets as you can.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 3 | -12 | 56 | -1000 | -10 | 88 | -5 |
| -31 | 199 | 4 | 38 | 5 | 99 | 500 | -25 |
| -298 | -8 | 500 | 22 | -19 | -46 | -19 | -42 |

## 2a Number Sequences

**Reminder**

The numbers in a sequence are called terms. The starting point is called the 1st term.

**Activity A**

**You can make up many different sequences with numbers using simple rules. Copy and complete these sequences.**

| | rule | starting point | 1st term | 2nd term | 3rd term | 4th term | 5th term |
|---|---|---|---|---|---|---|---|
| **1.** | add 3 | 1 | 1 | 4 | 7 | 10 | |
| **2.** | add 3 | 2 | 2 | 5 | | | |
| **3.** | double | 1 | 1 | 2 | 4 | | |
| **4.** | double | 3 | 3 | | | | |
| **5.** | double | 5 | 5 | | | | |

**6.** If the 1st term is 3 write a sequence of 5 terms using these rules:

**a.** add 5

**b.** multiply by 2

**c.** add 2

**d.** add 10

**Activity B**

**Give the next two terms in each of these sequences.**
**Describe the rule you have used.**

**1.** 2, 4, 6, ☐ ☐

**2.** 3, 6, 9, ☐ ☐

**3.** 1, 10, 100, ☐ ☐

**4.** -3, 0, 3, ☐ ☐

**5.** -9, -4, 1, ☐ ☐

**6.** 1, 2, 4, ☐ ☐

**7.** 2, 10, 50, ☐ ☐

**8.** 0, 7, 14, ☐ ☐

**For each pair of numbers find two sequences, write the next two terms.**
**Describe the rules you have used. The first one has been done as an example.**

**9.** 1, 4, ☐ ☐ **Answer: 1, 4, 7, 10** **Rule: +3**
**1, 4, 16, 64** **Rule: x4**

**10.** 3, 7, ☐ ☐

**11.** 2, 6, ☐ ☐

**12.** 4, 8, ☐ ☐

**13.** 5, 15, ☐ ☐

**Find the missing numbers in each of the following sequences.**

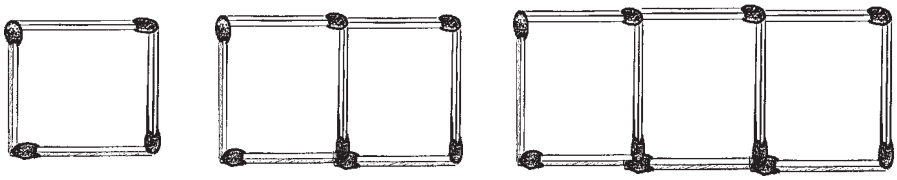
**14.** 2, 6, 14, 30, ☐ , 126

**15.** 2, 4, 3, ☐ 5, 10, 9, 18,

**16.** 3, 8, 6, 11, 9, 14, ☐ , 17

**Activity C**

**Growing Stick Squares**



4 sticks 7 sticks 10 sticks

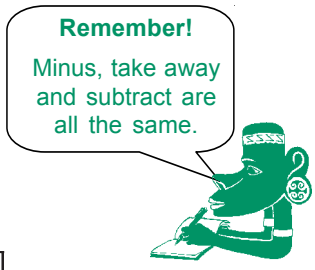
**1.** How many sticks do you need to make 5 squares?

**2.** How many sticks do you need to make 10 squares?

**3.** Write out the rule for this sequence.

# Unit 1

## 2b Number Sequences




**Activity A**

**Write a sequence of five terms using the information below.**

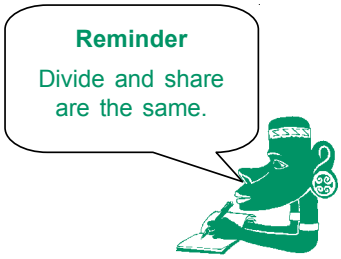
| | 1st term | Rule |
|---|---|---|
| **1.** | 1 | add 3 |
| **2.** | 10 | take away 2 |
| **3.** | 2 | multiply by 2 |
| **4.** | 32 | divide by 2 |

| | 1st term | Rule |
|---|---|---|
| **5.** | 1 | add 1.5 |
| **6.** | -4 | add 2 |
| **7.** | 33 | subtract 2 |
| **8.** | 2 | multiply by 3 |

**Activity B**

**Write a sequence of five terms using the information below.**

| | 1st term | Rule |
|---|---|---|
| **1.** | 1 | multiply by 2 and add 3 |
| **2.** | 1 | add 3 and multiply by 2 |
| **3.** | 0.5 | multiply by 2 and add 4 |
| **4.** | 1 | add 1, then add 2, then add 3 and so on |
| **5.** | 25 | multiply by 4 and add 25 |




**Activity C**

**Write a sequence of six terms using the information below.**

| | 1st term | Rule |
|---|---|---|
| **1.** | 1 | multiply by 5 and add 3 |
| **2.** | 1 | add 4 and multiply by 2 |
| **3.** | $5 | add $7 and take away $4 |
| **4.** | 1000 grams | divide by 2 and add 40 |
| **5.** | 1 | add odd numbers in order beginning with 1 |

**Write out the rule for each sequence below.**

**6.** 5, 10, 13, 26, 29, 58

**7.** 2, 4, 16, 256, 65, 536

**8.** 8, 18, 38, 78, 158

**9.** 7, 22, 52, 112, 232

**10.** -10, -22, -46, -94, -190, -382

# 4a Square Numbers

**Activity A**

**1. Look at this list of numbers. Pick out the square numbers.**

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

**Next to each number give a reason for your choice.**
e.g. If you chose **4** write,

**4 is a square number because 2 x 2 = 4.**

**Remember!**
A square number has two equal factors.

**2. Now draw a diagram for each number you have chosen.**

e.g. If you chose **4** your diagram will look like this.

| | |
|---|---|
| O | O |
| O | O |

**2 x 2 = 4**

**Reminder**
To get a product of two numbers multiply them together.

**Activity B**

**Complete this Square Number Table.**

| | factor | square number | product | to the power |
|---|---|---|---|---|
| **1.** | 1 | 1 | 1 x 1 = 1 | $1^2$ |
| **2.** | | 49 | | |
| **3.** | | | | $3^2$ |
| **4.** | | | 2 x 2 = 4 | |
| **5.** | | 100 | | |
| **6.** | 5 | | | |
| **7.** | | | | $6^2$ |

# Unit 1

## Check Up Page

1. **Write the number thirty-seven thousand, six hundred and forty-eight.**
2. **Write the number seventy thousand and eleven.**
3. **Write 69,354 in words.**
4. **Write 20,018 in words.**
5. **In the number 97,045**
   - **a.** What does the digit **7** represent?
   - **b.** What does the digit **9** represent?
   - **c.** How many **tens** are there in this number?
   - **d.** How many **hundreds** are there in this number?
6. **Look at the number 852,016**
   - **a.** How many **thousands** are there in this number?
   - **b.** How many **hundred thousands** are there?
   - **c.** How many **hundreds** are there in this number?
   - **d.** How many **ten thousands** are there?
7. **Use** all **these digits to make the smallest number you can.**
   **Then use the same digits to make the largest number you can.**

| 3 | 0 | 0 | 9 | 8 | 1 |
|---|---|---|---|---|---|

8. **Round up each number to the nearest ten, hundred and thousand**

   **a.** 1,527 **b.** 176,555 **c.** 88,973 **d.** 673,539 **e.** 934,223

9. **Which of these comparisons are** 'true' **and which are** 'false'**?**

   **a.** 23,456 **>** 23,556 **b.** 134, 576 **<** 234, 576

   **c.** 789,900 **>** 789,899 **d.** 243,010 **<** 243,001

10. **Copy and complete these sequences.**

    **a.** -4, -2, 0, 2, __, __,
    **b.** -5, -2, __, __, 7, 10
    **c.** 3, 6, 12, __, __
    **d.** __, __, 11, 15, 19, 23
    **e.** 1, 4, 6, 9, __, 14, __
    **f.** -2, 2, -1, 3, 0, 4, __, __

**11. Write a sequence of six terms using the information below.**

| | 1st term | Rule |
|---|---|---|
| **a.** | 5 | add 2 |
| **b.** | 2 | add 4, 2nd term take away 2 |
| **c.** | -3 | add 5, 2nd term take away 2 |
| **d.** | 100 | take away 5 |
| **e.** | 6 | multiply by 2, 2nd term take away 5 |

**12. Fill in the missing numbers in each of the number sequences below.**

**a.** 6 13 20 27 ___ ___ ___

**b.** 36 31 26 21 ___ ___ ___

**c.** 121 131 141 ___ ___ ___

**d.** 346 342 338 ___ ___ ___

**13. a. Write down all the square numbers between 10 and 50.**

**b. Explain why you have chosen these numbers.**

**c. Draw diagrams to show why they are square numbers.**

# Unit 2

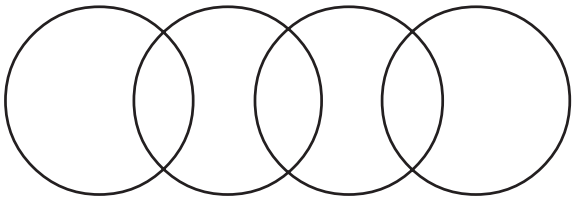
## 1b Circle Patterns

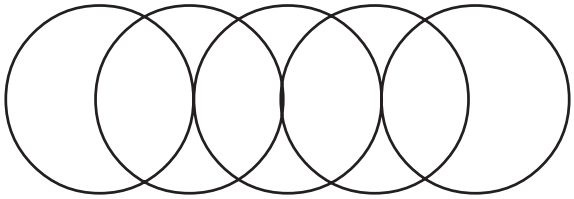
**Did you Know?**

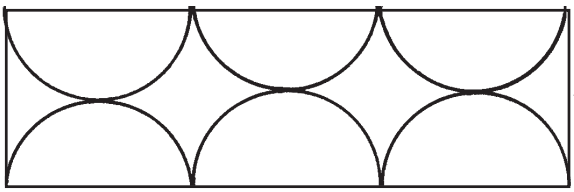
There are different types of circle patterns we can see around us.

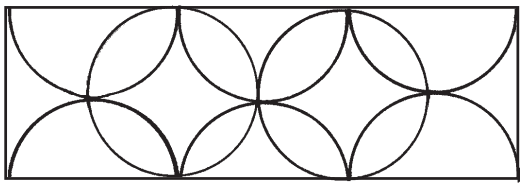
### Activity A

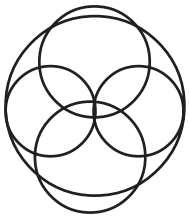
**Draw and colour these patterns. Use different colours to decorate your patterns.**

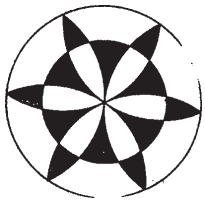


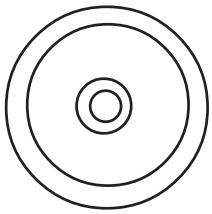












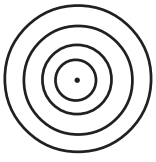
**Remember!**

Concentric circles have the same centre. Eccentric circles do not.

### Activity B

**Now draw some of your own circle patterns using a compass or a card strip.**

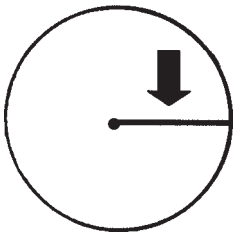
**Concentric circles**



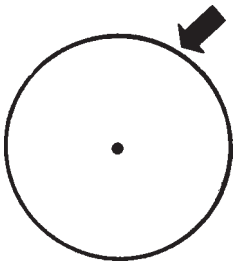
**Eccentric circles**

1. Draw 4 concentric circles.
2. Draw 4 eccentric circles.
3. Draw 5 semi-circles.
4. Draw a pattern from a combination of full circles and arcs.
5. Draw a pattern from a combination of full circles, semi-circles and arcs.
6. Draw a pattern using eccentric circles only.
7. Draw a pattern using concentric circles only.

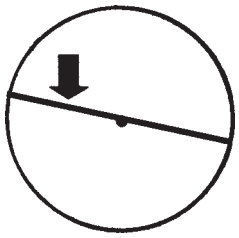
## 2a Parts of a Circle



**Radius**: A straight line from the centre to a point on the circumference.



**Circumference:** The perimeter of the circle.



**Diameter:** A straight line joining two points of a circle and passing through the centre.

### Activity A

**Here is an activity to find out how well you remember the parts of a circle. Read the instructions and complete the activity in your exercise book.**

**1.** Draw a circle. Label the centre, radius, diameter and circumference.

**2.** Use the words below to fill in the blank spaces. You need to use some words more than once. **side, radius, circumference, diameter, perimeter, radii**

**a.** The distance around the outside of a circle is called the _____.

**b.** A circle has only one _____.

**c.** A straight line from the centre of the circle to the circumference is called the _____.

**d.** The plural of radius is _____ .

**e.** A straight line drawn from one part of the circumference to another which passes through the centre of a circle is called the _____.

**f.** When two radii join to form a straight line, this is called the _____.

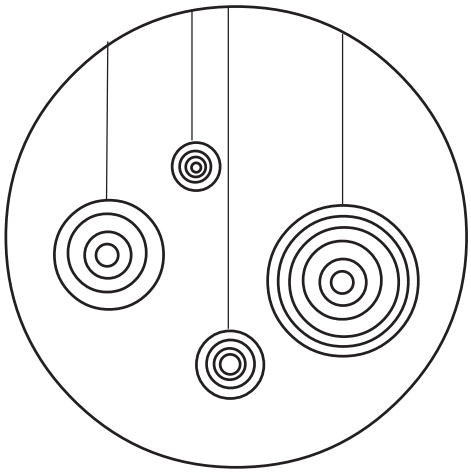
# Unit 2

**Activity B**

**Circle Crafts**

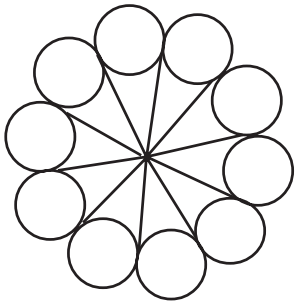
**Work with a partner and make these circles crafts.**
**Colour your crafts and display them in the classroom.**

**Circle Mobile.**

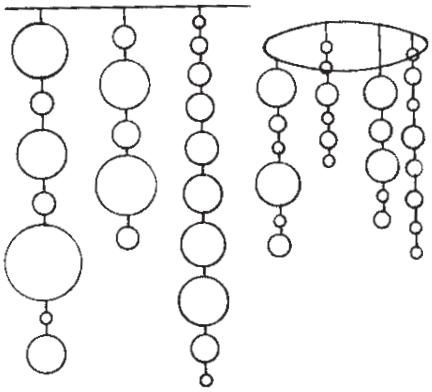


Draw concentric circles on paper using paper strips card or compasses.
Cut out the circle pattern and hang them as a mobile.

**Cone Mobile**

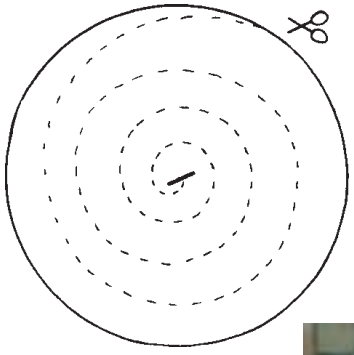


Make a cone with segments of circles. Glue ten cones together and hang as a mobile.



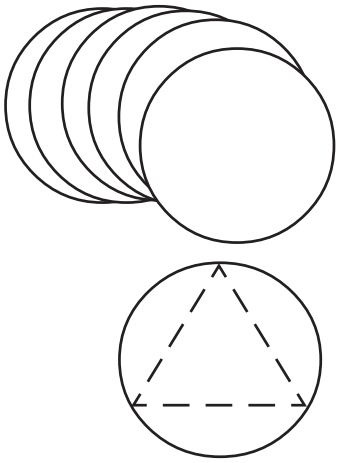
Cut out disks or use milk, milo and other container tops or lids to make a circle mobile. Hang them up as mobile.

**Circle Spiral**



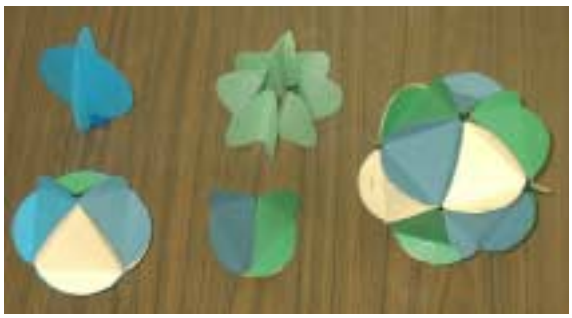
Make mosquito coils or snakes from circle spirals. Cut out the spiral line with scissors. Hang them as mobiles.

**How to make Ball Circles**



1. Draw many circles on card paper and cut them out.

2. Fold three sectors to form a triangle as shown in the diagram.

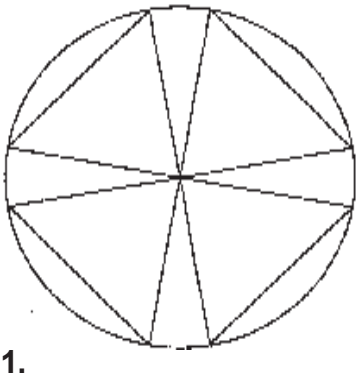


3. Glue the sectors together with sectors on other circles

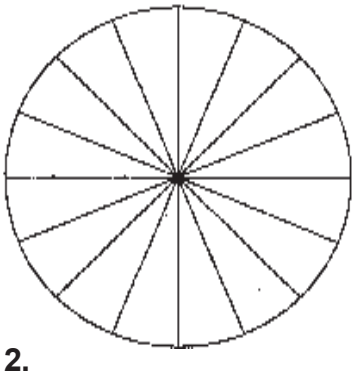
## 2b More Circle Patterns

**Activity A**

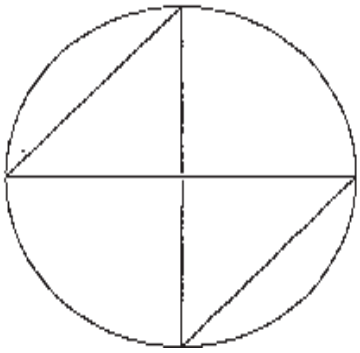
**Copy these circle patterns into your exercise book.**
**Create patterns by following the instructions below each circle.**



**1.**
Colour the sectors blue.
Colour the segments yellow.



**2.**
Colour the alternate sectors yellow and black.



**3.**
Colour the quadrants yellow.
Colour the segments green.

# Unit 2

**Activity B**

**Copy these circles into your exercise book. Follow the instructions below. The first one has been done for you.**

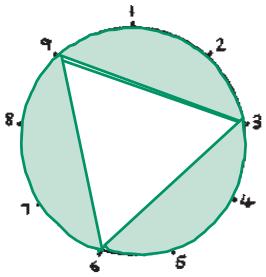
**1.** Number points on the circumference as shown in the diagrams.

**2.** Using your ruler, draw straight lines to connect each pair of numbers.

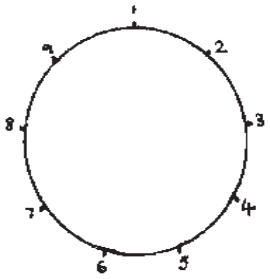
**3.** Colour the segments of each pattern.

**Challenge!**

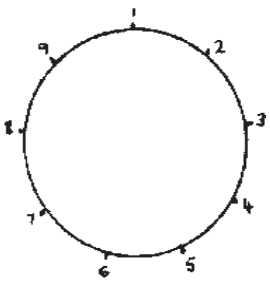
Can you make one of your own patterns?



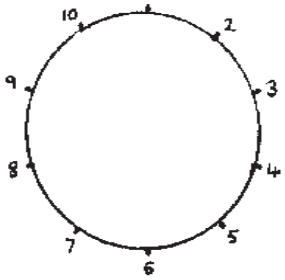
(3,6) (6,9) (9,3)



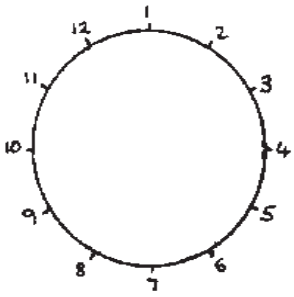
(1,4) (4,7) (7,1)



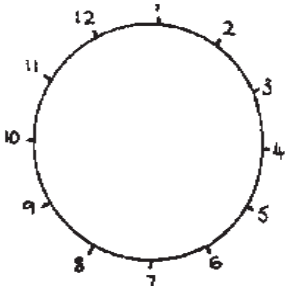
(1,5) (5,9) (9,1)



(2,4) (4,6) (6,8) (8,10) (10,2)



(2,4) (4,6) (6,8) (8,10) (10,12) (12,2)



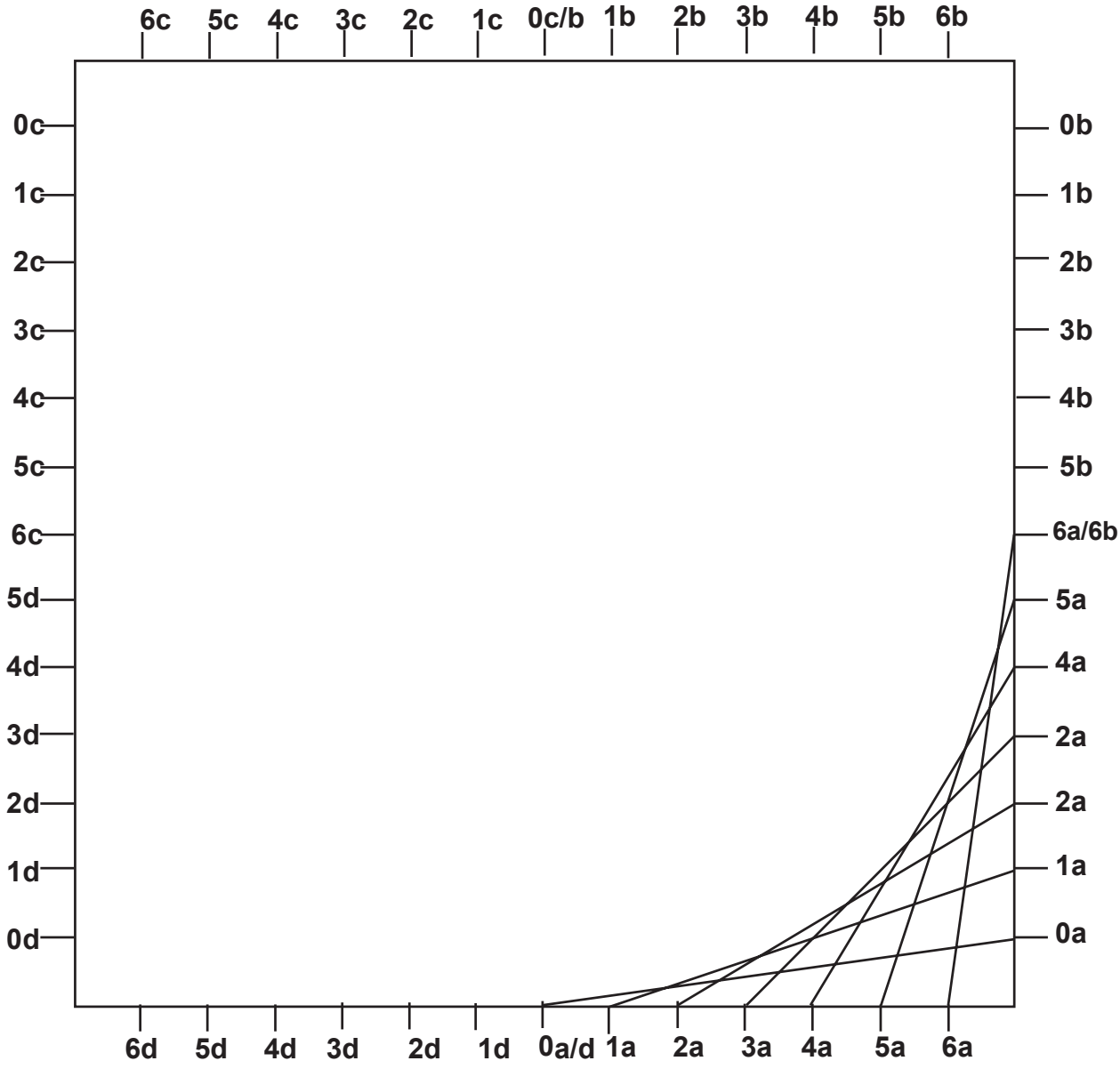
(3,6) (6,9) (9,12) (12,3)

# Circles

**Activity C**

**Follow the instructions below to draw a circle.**
**The example has been started for you.**

**Did you know?**
We can draw circles using a ruler.




1. Draw a 14 x 14 centimeter square.
2. Mark every 1cm along the sides of the square.
3. Number the marks as shown in the diagram above.
4. Use your ruler to draw lines to connect the same numbers.

**0a** ⟶ **0a, 1a** ⟶ **1a** and so on.

**Challenge!**
Can you draw another circle with different measurements?

# Unit 2

## 3a Calculating Radius and Diameter

### Activity A

**Copy and complete the table below in your exercise book. The first one has been done for you.**

| | Item | Radius | Diameter |
|---|---|---|---|
| **1.** | milo tin | 4 cm | 8 cm |
| **2.** | bucket | | 24 cm |
| **3.** | pot | 11 cm | |
| **4.** | plate | 8 cm | |
| **5.** | Thermos | | 12 cm |
| **6.** | cup | | 8 cm |
| **7.** | teapot | 7 cm | |
| **8.** | Schweppes bottle | | 6 cm |

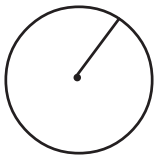
**Reminder**

The rule for calculating radius is $\mathbf{r = \frac{1}{2} \times d}$.
The rule for calculating diameter is **d = r x 2.**

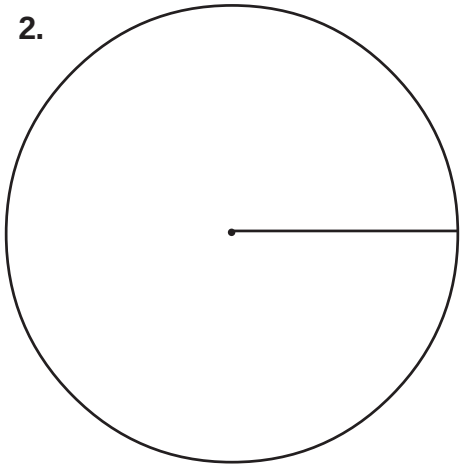
### Activity B

**Measure the radius of each circle with your ruler and calculate the diameter.**

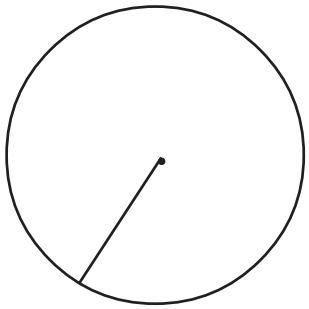
**1.**



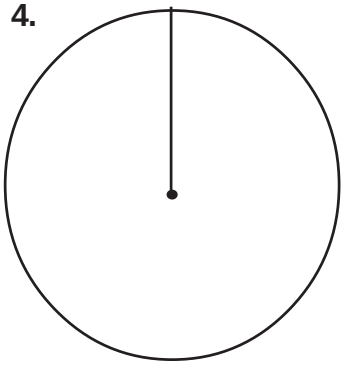
**2.**



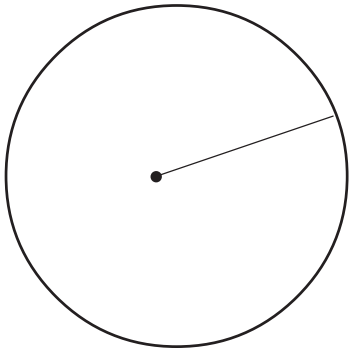
**3.**



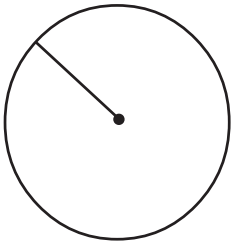
**4.**



**5.**



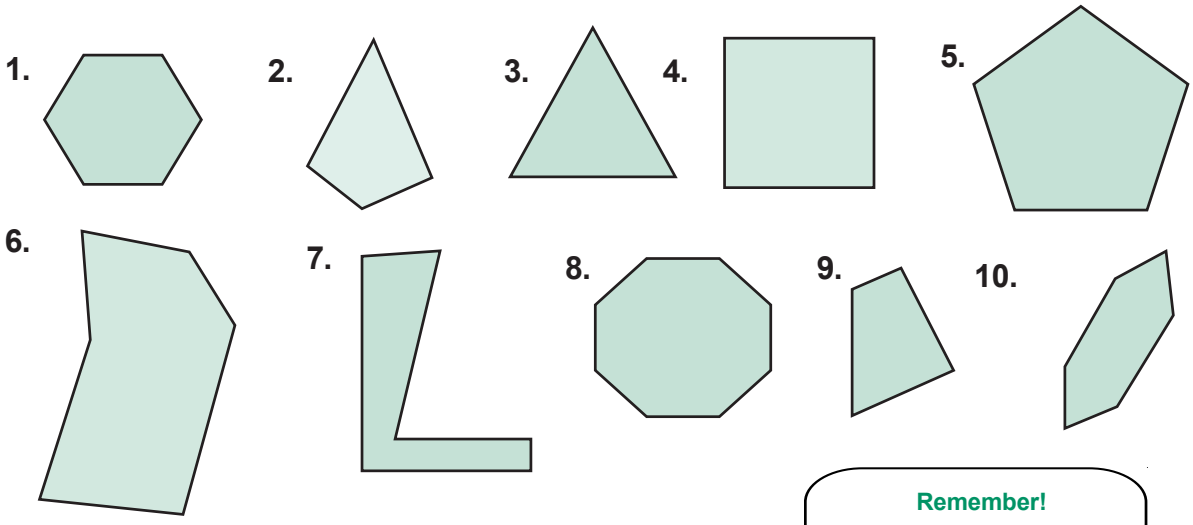
**6.**



# 1a Regular and Irregular Shapes

**Activity A**

**Look at the shapes below. In your exercise book, write down whether each shape is regular or irregular. The first one has been done for you.**



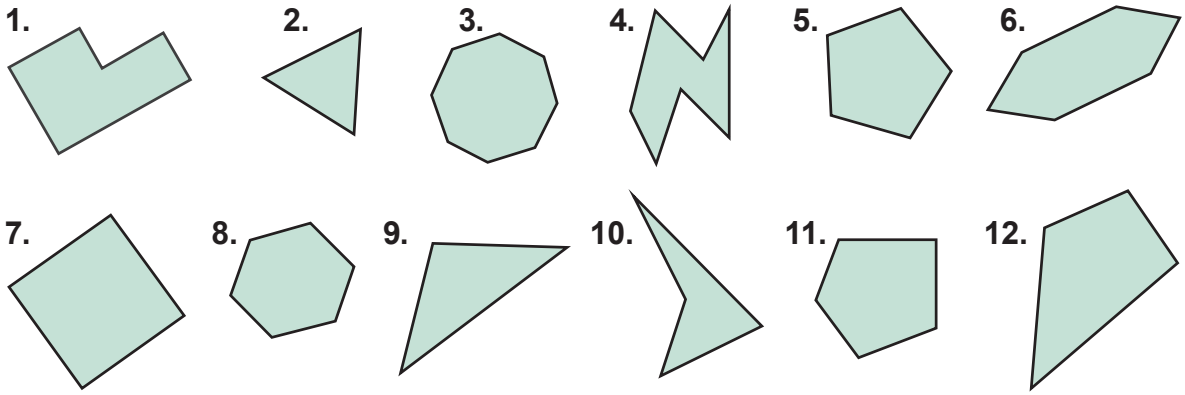

**1.** regular

**Remember!**

All the sides of a regular shape are the same length and all the internal angles are the same.

**Activity B**

**Look carefully at the shapes below. In your exercise book, write down the name of each shape and whether it is regular or irregular. The first one has been done for you.**




**1.** irregular hexagon

# Unit 2

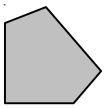
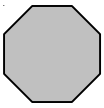
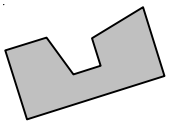
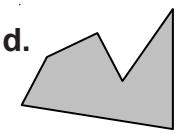
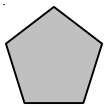
**Activity C**

**Follow the instructions given to** sketch **each shape into your exercise book.**

**Note**

You do not need to draw these shapes accurately – a sketch is enough.

1. Draw a regular hexagon and three different irregular hexagons.
2. Draw a regular pentagon and three different irregular pentagons.
3. Draw a regular triangle and three different irregular triangles.
4. Draw a regular quadrilateral and three different irregular quadrilaterals.
5. Now look at the shapes below. Write a description of each shape in your exercise book. The first one has been done for you.

**a.**  **b.**  **c.**  **d.**  **e.**  **f.** 

**a.** an irregular pentagon.

## 2a Properties of Shapes

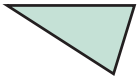
**Think and Discuss!**

What do you notice about the number of sides and the number of angles for each shape? Why is this?

**Activity A**

**Copy and complete the table in your exercise book.**

**The first row has been done for you.**

| shape | number of sides | number of angles of corners | symmetrical or asymmetrical? | name of the shape |
|---|---|---|---|---|
|  | 6 | 6 | symmetrical | irregular hexagon |
|  | | | | |
|  | | | | |
|  | | | | |
|  | | | | |

**Activity B**

**Match the descriptions below to the shapes in the box on the right.**
**Copy the shapes and write your answers in your exercise book.**

**1.** An irregular quadrilateral with two parallel sides.

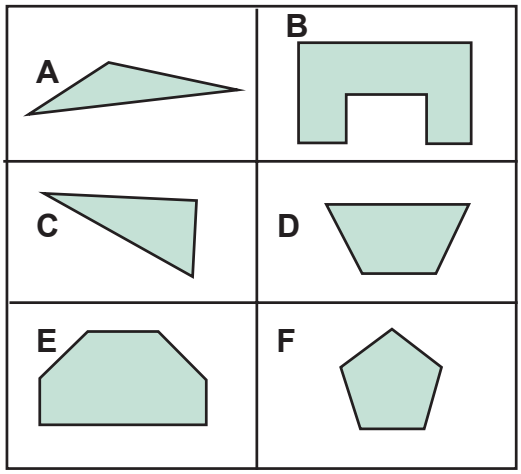
**2.** An irregular hexagon containing two right angles.

**3.** An irregular octagon with one line of symmetry.

**4.** A regular pentagon in which all the internal angles are the same.

**5.** An irregular triangle with one obtuse angle.

**6.** An irregular triangle with one right angle.




**Activity C**

**Follow the instructions given to** sketch **each shape into your exercise book.**

**1.** Draw an irregular quadrilateral with two parallel sides.

**2.** Draw an irregular hexagon containing two right angles.

**3.** Draw an irregular octagon in which all the angles are right angles.

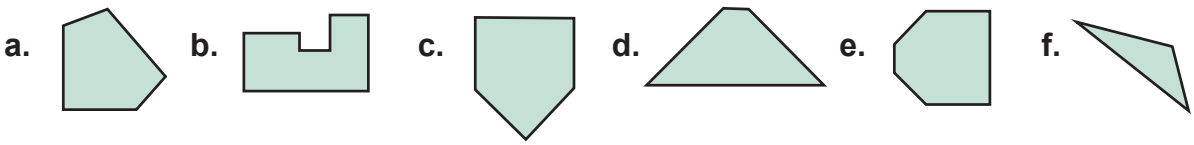
**4.** Draw an irregular triangle in which one angle is larger than a right angle.

**5.** Draw an irregular pentagon containing one right angle.

**6.** Draw an irregular pentagon with two parallel sides.

**7. Now look at these shapes.**

**Which of them fits each of the descriptions given in 1 – 6 above? The first one has been done for you. Write the answers in your exercise book.**




**a.** 5. An irregular pentagon containing one right angle.

# Unit 2

## 2c Symmetry and Asymmetry

**Reminder**
**Line symmetry** is when both parts of a shape are the same when folded or divided by line.

**Activity A**

**Look at the examples below.**

MARIE

CHARLES

The red lines are the lines of symmetry for each letter.

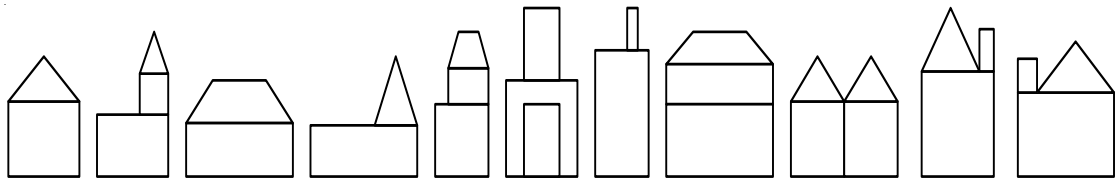
**Be careful!**
Some letters have more than one line of symmetry.

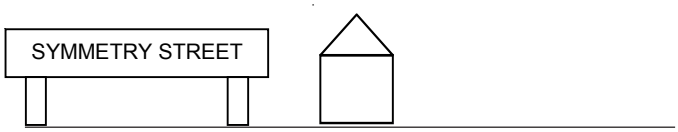
**Write your own name in your book in capital letters and use a different colour to draw in the lines of symmetry for each letter.**

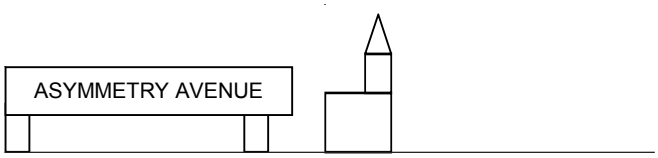
**Activity B**

**Some of the buildings in this road are symmetrical and some are not.**

**Draw them again in your exercise book putting the symmetrical ones in** 'Symmetry Street' **and the ones which are not symmetrical in** 'Asymmetry Avenue' **the first two have been done for you.**





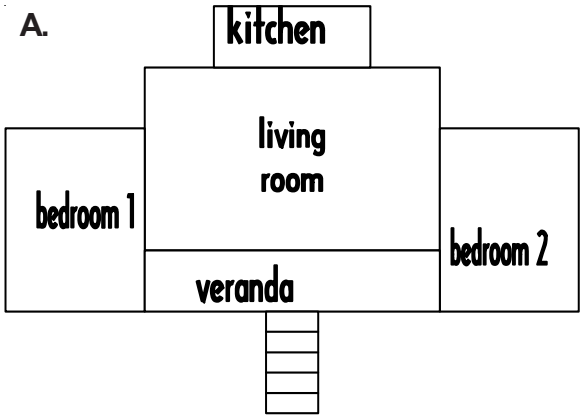




**Which road has the most buildings?**
**Now draw two more buildings in each road. Think of your own designs.**
**Draw in the lines of symmetry for each building on Symmetry Street.**

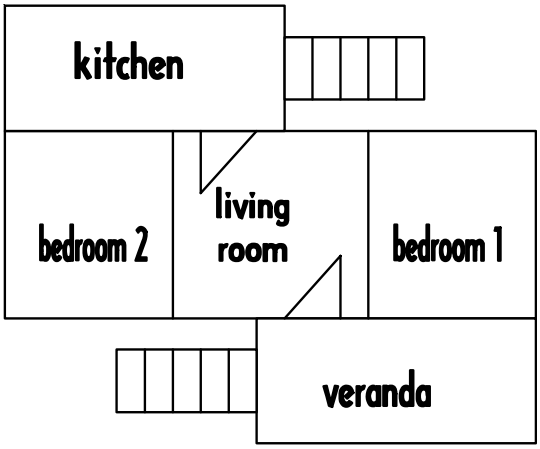
**Activity C**

**Look at the two floor plans of houses below. One is symmetrical, one is not.**

A.




B.




**Which house is symmetrical?**

**Now design your own** symmetrical **house.**

**Draw the floor plan in your exercise book using the following instructions**:

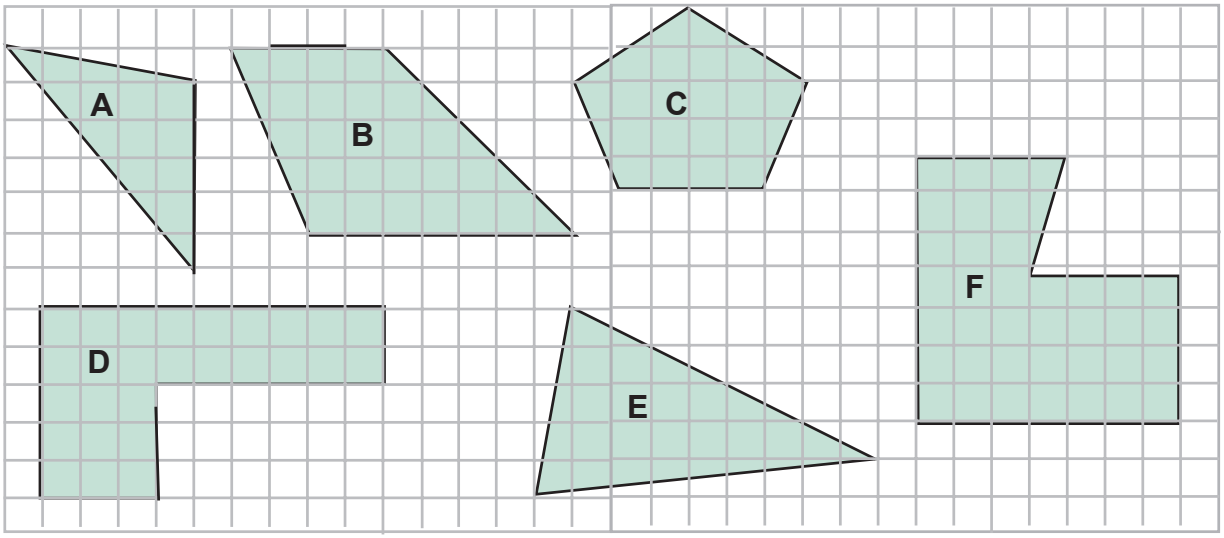
Your house should have three bedrooms, a living room, kitchen and two verandas one large and one small. It must have three ladders, one at the back of the house and two at the front.

## 3b Mirror Images

**Activity A**

**Look at the shapes below. Copy the shape carefully onto squared paper and then draw the** mirror image **of each shape.**

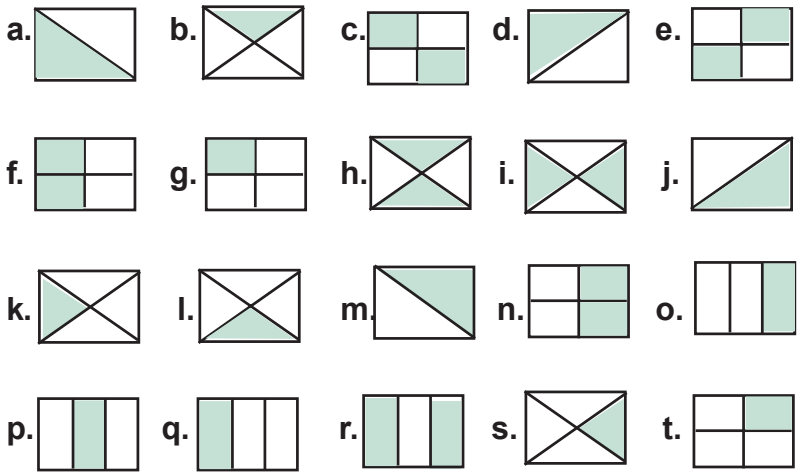
**Draw the** mirror line **you have used on your finished diagrams.**



# Unit 2

## Activity B

**Look at the flags below. There are at least eight pairs of flags where one is the mirror image of the other. Find eight pairs and write them in your exercise books. The first one has been done for you.**




**Be Careful!**

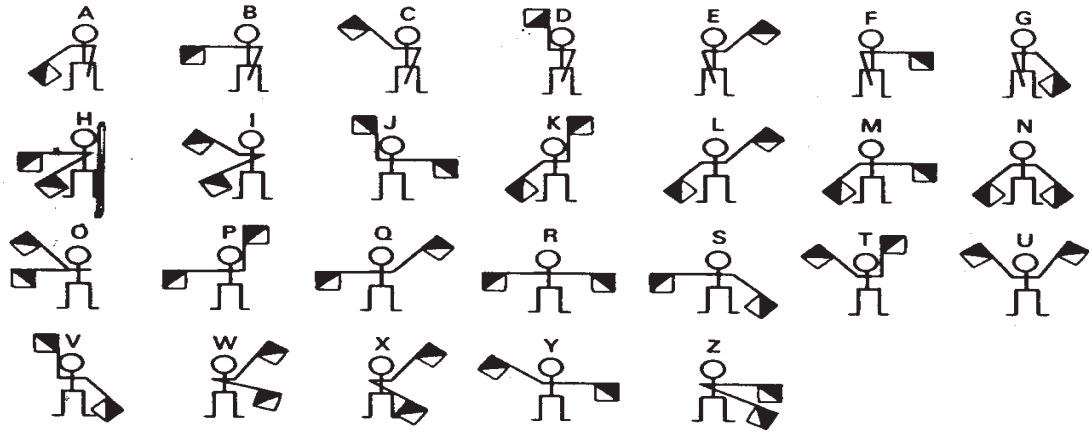
For this exercise, some answers will be different depending on whether you use a vertical mirror line or a horizontal mirror line. You decide which one to use.

**Answers**

1. **j and a**
2. _____

## Activity C

**Study the** Semaphore Alphabet **below. These are letters which can be made by holding flags in different positions. The alphabet can be used for sending messages.**




1. **Look carefully at the letters to find pairs of letters that are the** mirror image **of each other. For example A and G. There are eight pairs in total. Write them in your exercise book as shown.**

   **a. A and G**

   **b.**

2. **There are only three letters in the Semaphore Alphabet that are symmetrical. Write these down in your exercise book and use them to spell a three-letter word.**

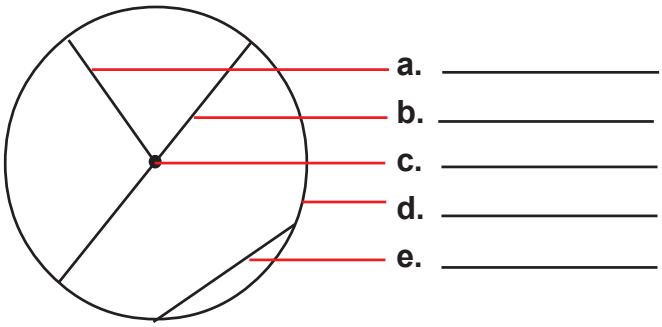
   **If you have time you can make some paper flags and practice sending semaphore messages to your partner.**

# Check Up Page

**1. In your own words explain the following terms.**

**a.** diameter **b.** circumference **c.** radius

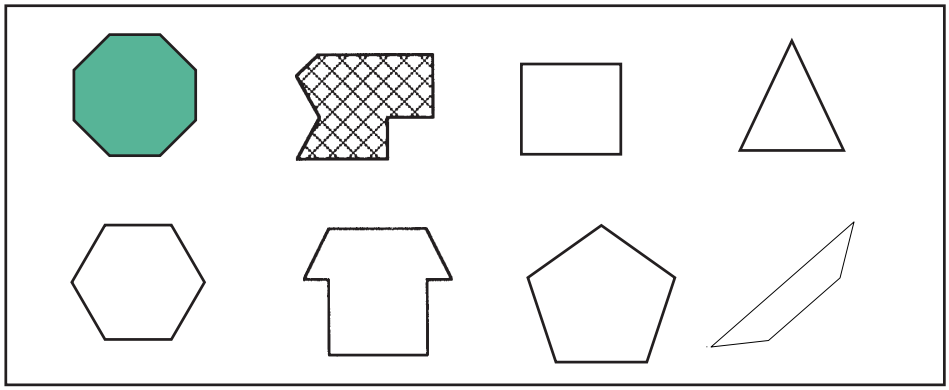
**2. Draw and then label the properties of the circle.**



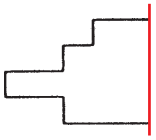
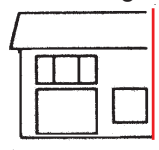

**3. Copy the shapes onto squared paper.**

**Shade the regular shapes and crosshatch the irregular shapes. Write the name of each shape beside your drawing.**

**The first two have been done for you.**

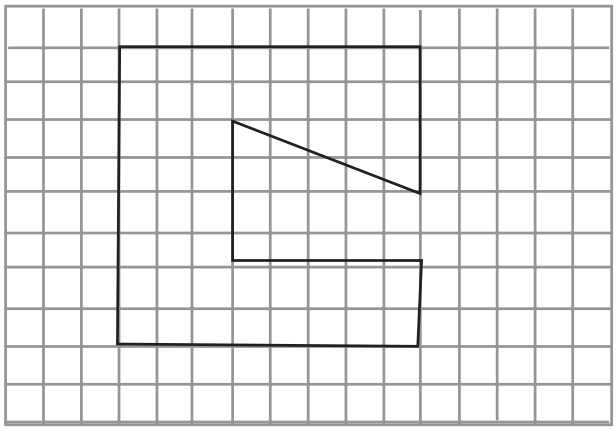


**4. Draw and complete the following shapes in your book.**

| | | |
|---|---|---|
| A symmetrical irregular shape  | An asymmetrical face | An asymmetrical design  |
| A symmetrical building  | A symmetrical fish | A symmetrical pattern  |

## Unit 2

**5. On squared paper draw the** reflection **of the shape below. Write one or two sentences to explain how you did this.**



**6. Write the mirror image of the following words.**

pig run boy dog sit hat

**7. Write the meaning of each of the following words.**

**a.** vertices
**b.** hexagon
**c.** irregular
**d.** symmetrical
**e.** reflection
**f.** quadrilateral
**g.** pentagon

# Unit 3

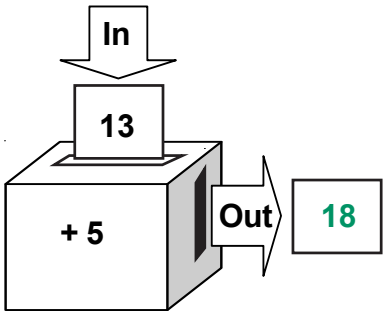
## 1a Mental Addition

**You Choose**

Counting in 5's, Counting in 10's and doubling are all good mental strategies.

### Activity A

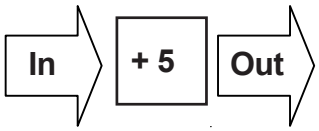
**Look at this adding machine. 13 is put in and 5 is added on, so 18 comes out. 13 + 5 = 18**




**Write out the addition sums below.**

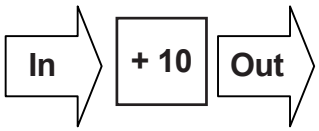
**Mentally work out the answers. Write them in your exercise book.**

**1.**




| In | 15 | 27 | 30 | 21 | 44 | 53 |
|---|---|---|---|---|---|---|
| Out | | | | | | |

**2.**




| In | 13 | 27 | 31 | 38 | 40 | 75 |
|---|---|---|---|---|---|---|
| Out | | | | | | |

### Activity B

**Mentally work out these sums and write the answers in your exercise book. Remember to use one of the strategies you have learnt.**

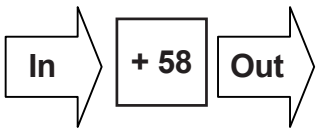
**1.** 12 + 5 = **2.** 16 + 10 = **3.** 27 + 6 = **4.** 47 + 5 = **5.** 43 + 9 =

**6.** 58 + 20 = **7.** 28 + 14 = **8.** 18 + 7 = **8.** 67 + 15 = **10.** 75 + 8 =

### Activity C

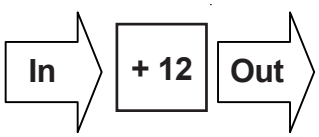
**Copy the tables below. Mentally work out the missing numbers in the tables and write the answers in your exercise book.**

**1.**



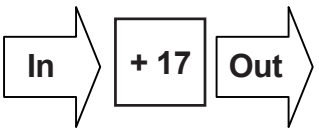

| In | 8 | | 19 | 54 | | 20 |
|---|---|---|---|---|---|---|
| Out | | 98 | | | 76 | |

**2.**




| In | | | 12 | | 28 | 35 |
|---|---|---|---|---|---|---|
| Out | 30 | 25 | | 59 | | |

**3.**




| In | 17 | | | 19 | | |
|---|---|---|---|---|---|---|
| Out | | 53 | 47 | | 21 | 100 |

# Addition

## 1b More Mental Addition

### Activity A

**Copy these tables into your exercise book. Work out the answers in your head and complete each table.**

**1.**

| + | 43 | 25 | 32 | 54 |
|---|---|---|---|---|
| 23 | | | | |
| 31 | | | | |
| 44 | | | | |
| 52 | | | | |

**2.**

| + | 100 | 110 | 302 | 420 |
|---|---|---|---|---|
| 200 | | | | |
| 330 | | | | |
| 450 | | | | |
| 540 | | | | |

**3.**

| + | 231 | 609 | 362 | 481 |
|---|---|---|---|---|
| 210 | | | | |
| 360 | | | | |
| 400 | | | | |
| 517 | | | | |

### Activity B

**Work out these addition sums using the counting in 10's and 100's strategies.**

**1.** 57 + 22 =

**2.** 43 + 34 =

**3.** 250 + 40 =

**4.** 306 + 103 =

**5.** 160 + 430 =

**6.** 606 + 550 =

**7.** 63 + 32 =

**8.** 418 + 232 =

**9.** 46 + 13 =

**10.** 123 + 321 =

**Remember!**

Any number which is added to another number is called an **addend.**
The answer is the **sum** of the addends.

### Activity C

**Can you find the missing addend? Use the counting in 10's and 100's strategies.**

**1.** 600 + ☐ = 736

**2.** 56 + ☐ = 66

**3.** 40 + ☐ = 63

**4.** 203 + ☐ = 407

**5.** 405 + ☐ = 707

**6.** 64 + ☐ = 88

**7.** 612 + ☐ = 872

**8.** 18 + ☐ = 108

**9.** 426 + ☐ = 626

**10.** 132 + ☐ = 432

# 2a Addition Without Regrouping

**Activity A**

**Copy the questions into your exercise book and work out the answers.**

**Example**

23,471 + 14,125 =

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 2 | 3 | 4 | 7 | 1 |
| + | 1 | 4 | 1 | 2 | 5 |
| | **3** | **7** | **5** | **9** | **6** |

**Remember!**
A place value chart can help you set out your sums correctly.

**1.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 1 | 5 | 2 | 3 | 1 |
| + | 1 | 0 | 4 | 5 | 2 |

**2.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 1 | 3 | 0 | 4 | 3 |
| + | 4 | 4 | 2 | 0 | 5 |

**3.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 7 | 0 | 1 | 1 | 0 |
| + | 2 | 6 | 1 | 8 | 1 |

**4.** 21,342 + 16,122 =

**5.** 54,521 + 45,340 =

**6.** 26,802 + 81,107 =

**Activity B**

**Copy and complete these sums in your exercise book.**

**1.** 68,142
+ 12,124

**2.** 278,324
+ 111,210

**3.** 451,232
+ 215,767

**4.** 572,144
306,211
+120, 434

**5.** 245,321
123,123
+ 31,655

**6.** 400,117
12,600
+ 4,052

**7.** 24,168 + 42,121 + 33,510 =

**8.** 300,211 + 232,154 + 167,512 =

**9.** 423,872 + 365,120 + 211,007 =

**Activity C**

**Answer the questions below in your exercise book**

**1.** A bottle collecter collected 4,681 bottles in one week. He collected 3,111 bottles the following week. How many bottles did he collect during the two week period?

**2.** Three motorised canoes took part in a competition to find out how far they could travel on one litre of petrol. The first canoe covered 12,113 metres, the second canoe covered 10,660 metres and the third covered 15,215 metres.

How many metres did the canoes cover altogether?

**3.** A weekend rugby sevens competition attracted 12,568 spectators during the first weekend. On the second weekend 10,000 spectators came. What was the total number of spectators that came to watch the games?

# Unit 3

## 2b Addition of 5-digit Numbers

**Activity A**

**Study the example below. Copy the sums and complete this activity in your exercise book.**

**Example**

**35,128 + 64,637 =**

| T.Th | Th | H | T | O |
|---|---|---|---|---|
| | | | 1 | |
| 3 | 5 | 1 | 2 | 8 |
| + 6 | 4 | 6 | 3 | 7 |
| 9 | 9 | 7 | 6 | 5 |

8+7=15

**1.**

| T.Th | Th | H | T | O |
|---|---|---|---|---|
| 1 | 6 | 3 | 4 | 7 |
| + 1 | 4 | 7 | 8 | 2 |

**2.**

| T.Th | Th | H | T | O |
|---|---|---|---|---|
| 7 | 7 | 5 | 2 | 1 |
| + 4 | 5 | 3 | 8 | 9 |

**Reminder**

You will need to use regrouping for these addition sums.

**3.**

| T.Th | Th | H | T | O |
|---|---|---|---|---|
| 9 | 1 | 2 | 0 | 7 |
| + 2 | 6 | 8 | 0 | 3 |

**4.**

| T.Th | Th | H | T | O |
|---|---|---|---|---|
| 8 | 4 | 6 | 3 | 2 |
| + 5 | 7 | 4 | 4 | 9 |

**Activity B**

**Copy and complete the following addition sums in your exercise book. The first one has been done for you.**

**1.**
1
56,739
+ 12, 258
**68,997**

**2.**
136,247
+ 442,348

**3.**
23,265
+ 580,319

**4.**
886,439
+ 2,349

**5.**
546,234
123,456
+ 980,009

**6.**
23,803
332,528
+ 336,208

**7.**
88,439
216
+ 576,117

**8.**
876,452
2,349
+ 563,078

**9.**
846,234
37,459
+ 980,039
422

**10.**
203,607
332,725
+ 336,298
674,532

**11.**
88,439
123,673
649,095
+ 451,548

**12.**
576,452
82,349
563,078
+ 88,007

**Activity C**

**Find the missing numbers. Each square means that one digit is missing.**

**1.** 12, ☐14 + 15,372 = 27,986 **2.** 36, ☐25 + 12,37 ☐ = 48,595

**3.** 89,999 + 1☐, ☐00 = 99,999

**Find the answer to the problems below. Set them out carefully in your exercise book to show your working out.**

**4.** 10,429 visitors came to Honiara in November 2003. 6,258 people came during the month of December. What was the total number of visitors?

**5.** Three soccer matches were played at Lawson Tama Stadium. The attendance at the matches was as follows, 12,463 on the first day, 11,507 on the second day and 9,294 on the third day. What was the total number of spectators?

**6.** David and Pita collected coconuts from their plantations. David had 1,557 and Pita had 6,341. How many coconuts did they have altogether?

## 3a Estimate and Calculate

**Rounding to 10**

If the digit in the ones column is below 5, round down. If it is 5 or above round up.

**Activity A**

**1. To estimate the sum of two numbers you need to be able to round up. Copy and complete the tables below.**

| | Number | Round to the nearest 10 |
|---|---|---|
| **a.** | 74 | 70 |
| **b.** | 62 | |
| **c.** | 19 | |
| **d.** | 25 | |
| **e.** | 57 | |

| | Number | Round to the nearest 100 |
|---|---|---|
| **f.** | 257 | 300 |
| **g.** | 372 | |
| **h.** | 6,512 | |
| **i.** | 4,069 | |
| **j.** | 735 | |

| | Number | Round to the nearest 10 |
|---|---|---|
| **k.** | 257 | 260 |
| **l.** | 372 | |
| **m.** | 6,512 | |
| **n.** | 4,069 | |
| **o.** | 735 | |

**2. Estimate first then calculate the actual answer. Use the mental strategies you have practised. The first one has been done for you as an example.**

| | | Estimate | Actual |
|---|---|---|---|
| **a.** | 27 + 34 = | 30 + 30 = 60 | 61 |
| **b.** | 38 + 46 = | | |
| **c.** | 17 + 50 = | | |
| **d.** | 25 + 29 = | | |
| **e.** | 41 + 39 = | | |

| | | Estimate | Actual |
|---|---|---|---|
| **f.** | 53 + 19 = | | |
| **g.** | 30 + 25 = | | |
| **h.** | 46 + 11 = | | |
| **i.** | 59 + 42 = | | |
| **j.** | 14 + 83 = | | |

# Unit 3

## Activity B

**Work out an estimate first. Then calculate the answer.**

**1.** H . T . O
1 3 7
+ 2 5
_____

**2.** H . T . O
3 5 7
+ 7 2
_____

**3.** H . T . O
4 1 3
+ 4 4
_____

**4.** H . T . O
5 7
+ 9 6
_____

**5.** H . T . O
1 8 8
+ 3 8
_____

**6.** H . T . O
1 1 2
+ 3 7 3
_____

**7.** H . T . O
3 6 7
+ 4 4 5
_____

**8.** H . T . O
2 9 8
+ 3 0 9
_____

**9.** H . T . O
4 5 5
+ 2 6 7
_____

**10.** H . T . O
2 2 2
+ 6 8 8
_____

## Activity C

**Work out an estimate first. Then calculate the answer.**

**1.** Th . H . T . O
3 3 7 8
+ 2 5 5 3
_____

**2.** Th . H . T . O
2 7 5 9
+ 4 2 7 8
_____

**3.** Th . H . T . O
1 4 9 9
+ 3 6 4 8
_____

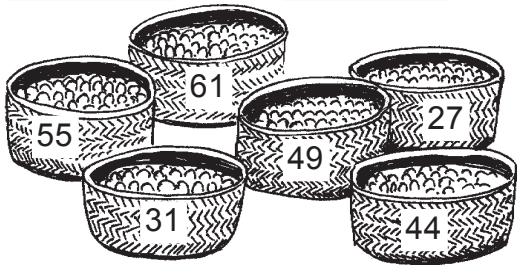
**4.** Th . H . T . O
6 6 8 8
+ 2 0 6 7
_____

**5.** Th . H . T . O
1 1 8 6
+ 7 0 0 9
_____

**6.** Th . H . T . O
4 6 6 1
+ 4 4 7 9
_____

**7.** Th . H . T . O
5 4 7 7
+ 3 9 2 3
_____

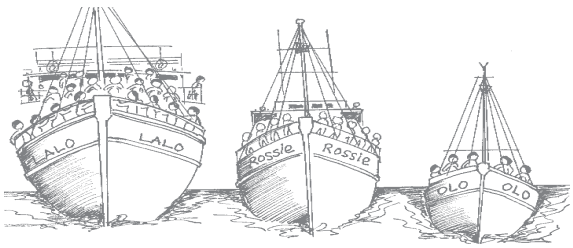
**8.** Th . H . T . O
6 2 3 9
+ 2 7 5 5
_____




**9.** How many eggs are there in all the baskets?

Estimate first then calculate.

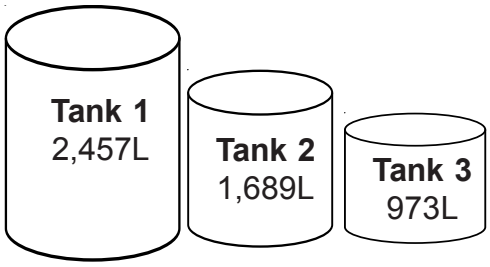
**10.** How many litres of water are there in the 3 water tanks?



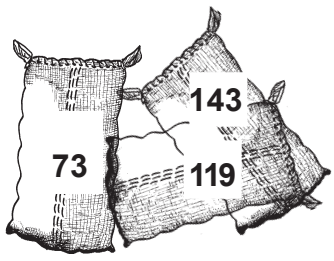
**MV.Lalo**
**212**
**passengers**

**MV. Rossie**
**179**
**passengers**

**MV. Olo**
**87**
**passengers**

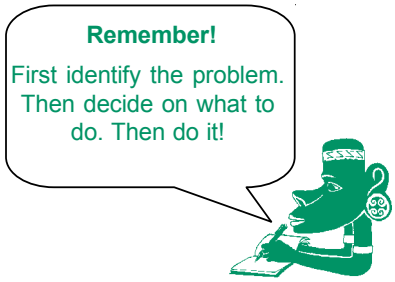



**11.** How many passengers were travelling on the boats altogether?




**12.** Estimate how many coconuts there are in the 3 sacks. Then calculate the actual answer.

# 4a Problem Solving




## Activity A

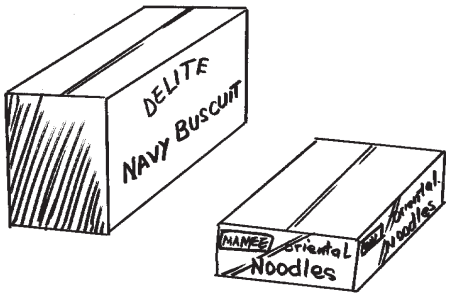
**Work out these problems. Show all your working out in your exercise book.**

**1.** The total school enrolment for Gizo Primary School at the beginning of year 2000 was 350.

Since the ethnic tension started, 150 extra pupils enrolled in the school. What was the total enrolment for the school at the end of the year?

**2.** In a class of children, 24 are girls and 18 are boys. What is the total number of pupils in the class?

**3.** Jane bought a carton of biscuits for $45.50 and a carton of noodles for $47.80. How much did she spend altogether?




**4.** The chart below shows the annual rainfall recorded by the Metrological Office for the years 1998 to 2003.

| Year | Amount of Rainfall |
|---|---|
| 1998 | 1,200 mL |
| 1999 | 1,500 mL |
| 2000 | 500 mL |
| 2001 | 2,900 mL |
| 2002 | 1,800 mL |
| 2003 | 2,300 mL |

**a**. Which year had the heaviest rainfall?

**b**. What was the total rainfall from 1998 to 2003?

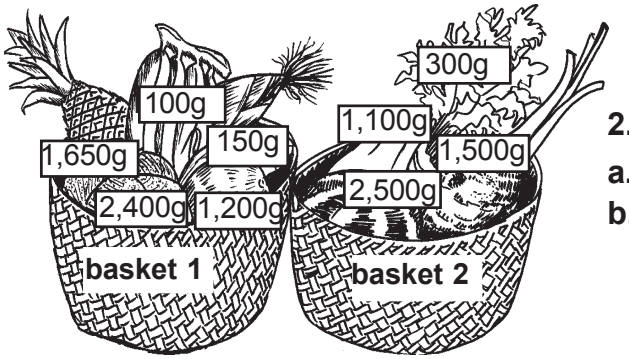
**c**. Find the total rainfall for 1998 to 2000 and 2001 to 2003.

## Activity B

**Work out these problems. Remember to show your working out in your exercise book.**

**1.** A local farmer sold her products at the market at these prices. Lionel bought three items for a total cost of $15.00.


Find all the possible combinations of the three items Lionel bought.



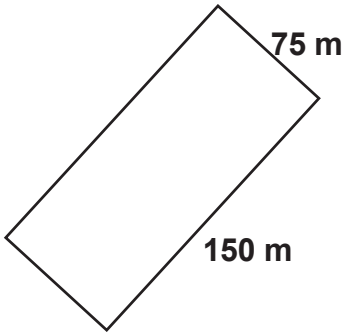

**2. Here are two baskets.**

**a.** Which basket is the heaviest?

**b.** Can you make the two baskets the same mass by taking something out of the heaviest basket? What did you take out?

# Unit 3

## 4b Problem Solving - Mixed Operations




### Activity A

**Answer these problems in your exercise book.**

**1.** Lawrence wanted to put up a fence around his garden. He already had 200m of fencing in his store. If his garden was a 150 metres long and 75 metres wide how much more fencing did he need to buy?

**2.** I collected 236 shells. My sister collected 176 but she already had 150 at home.

**a.** Did she have more or less shells than me altogether?

**b.** How many more or how many less did she have?

**3.** From our village to the gardens it is exactly one kilometre. We have to paddle across the river which is 70 metres wide. How far do we have to walk to get to our garden?

### Activity B

**Work out the following problems and write your answers, as well as your working out, in your exercise book.**

**1.** Grandmother's chickens laid 25 eggs on Monday, 32 on Tuesday, 19 on Wednesday and 27 on Thursday.

**a.** How many eggs must they lay on Friday, Saturday and Sunday if they lay 151 eggs in a week?

**b.** On Friday, Saturday and Sunday the chickens laid the same number of eggs. How many eggs did they lay on each day?

**2.** Tom, Benjamin and Selwyn are 4 metres and 4 centimetres tall when their heights are added together. If Tom is 152 centimetres tall and Benjamin is 98 centimetres how tall is Selwyn?

### Activity C

**Read these problems carefully. Work out the answers.You may need to use more than one operation to find the answer. Show all your working out in your exercise book.**

**1.** This table shows the distance by air from Honiara to other destinations in Solomon Islands.

Joshua went on two journeys. The total distance he travelled was 616 km. Which two journeys did he go on?

| From Honiara | Distance in km |
|---|---|
| Auki | 106 |
| Gizo | 383 |
| Kira Kira | 233 |
| Buala | 156 |
| Tulagi | 39 |

**2. This table shows the distance by air from Honiara, Solomon Islands to other destinations in the Pacific region.**

| From Honiara | Distance in km |
|---|---|
| Brisbane | 2,150 |
| Auckland | 3,290 |
| Port Moresby | 1,400 |
| Suva | 1,955 |
| Port Vila | 1,275 |
| Tokyo | 5,350 |

**a.** Martha went on two journeys. The total distance she travelled was 3,550km. Which two journeys did she go on?

**b.** Grace went on two journeys too. One of her destinations was the same as Martha's. If she travelled 3,355km altogether where else did she go?

## 1a Mental Subtraction

**Surprise!**

You can work out a subtraction answer by doing an addition in your head! This is called an inversion strategy.

### Activity A

**Complete this activity in your exercise book.**
**Use mental subtraction strategies.**

**1.** 16 - 9 = **2.** 20 - 12 = **3.** 18 - 8 =

**4.** 23 - 7 = **5.** 17 - 9 = **6.** 12 - 5 =

**7.** 32 - 7 = **8.** 19 - 13 = **9.** 27 - 8 =

**10.** 35 - 14 = **11.** 28 - 8 = **12.** 14 - 3 =

### Activity B

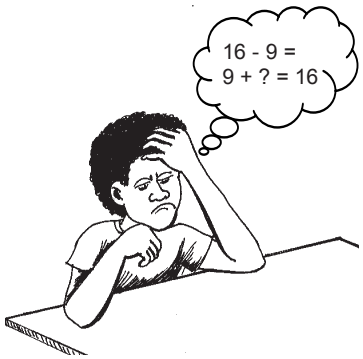
**Use mental subtraction strategies to complete this activity in your exercise book.**

**1.** 24 - 14 = **2.** 40 - 19 = **3.** 22 - 10 =

**4.** 60 - 31 = **5.** 30 - 16 = **6.** 50 - 27=

**7.** 16 - 7 = **8.** 44 - 21= **9.** 77 - 8 =

**10.** 45 - 14 = **11.** 54 - 8 = **12.** 84 -13 =



# Unit 3

### Activity C

**Use mental subtraction strategies to complete the number squares in your exercise book.**

**1.**

| - | 155 | 29 | 14 | 24 |
|---|---|---|---|---|
| 7 | | | | |
| 5 | | | | |
| 8 | | | | |
| 11 | | | | |

**2.**

| - | 65 | 79 | 84 | 53 |
|---|---|---|---|---|
| 27 | | | | |
| 35 | | | | |
| 18 | | | | |
| 48 | | | | |

**3.** **Complete this magic square using these numbers.**

**( 1, 2, 3, 4, 5, 6, 7, 8, 9 )**

**Each row must add up to 15.**

| | | |
|---|---|---|
| | | |
| | | |
| | | |

**4.** **Complete this magic square using these numbers .**

**( 11,12, 13, 14, 15, 16, 17, 18, 19 )**

**Each row must add up to the same number.**

| | | |
|---|---|---|
| | | |
| | | |
| | | |

## 1c More Mental Subtraction

### Activity A

**Choose a strategy and work out the answers to these subtractions in your head. Write the answers in your exercise book.**

**1.** 25 - 9 =

**2.** 13 - 4 =

**3.** 21 - 19 =

**4.** 18 - 7 =

**5.** 29 - 19 =

**6.** 23 - 11 =

**7.** 27 - 4 =

**8.** 19 - 10 =

**9.** 28 - 19 =

**10.** 30 - 17 =

**11.** 33 - 13 =

**12.** 20 - 7 =

**13.** 29 - 10 =

**14.** 18 - 9 =

**15.** 24 - 16 =

**Activity B**

**How quickly can you work out the answers mentally?**
**Write the answers in your exercise book. Have you chosen the best strategy?**

**1.** 39 - 27 =
**2.** 41 - 16 =
**3.** 51 - 19 =
**4.** 20 - 17 =
**5.** 46 - 28 =
**6.** 29 - 12 =
**7.** 48 - 38 =
**8.** 42 - 15 =
**9.** 55 - 35 =
**10.** 33 - 26 =
**11.** 35 - 13 =
**12.** 30 - 17 =
**13.** 39 - 25 =
**14.** 32 - 9 =
**15.** 34 - 12 =

**Activity C**

**Can you find the missing number? Do all the calcaulations in your head.**

**1.** 27 - ☐ = 15
**2.** 31 - ☐ = 19
**3.** 46 - ☐ = 16
**4.** ☐ - 16 = 27
**5.** ☐ - 24 = 17
**6.** ☐ - 39 = 15
**7.** ☐ - 28 = 3
**8.** 56 - ☐ = 22
**9.** 37 - ☐ = 12
**10.** 36 - ☐ = 10
**11.** ☐ - 33 = 25
**12.** ☐ - 26 = 13
**13.** 42 - ☐ = 27
**14.** ☐ - 64 = 18
**15.** 122 - ☐ = 101

## 2a Subtraction of 5 and 6-digit Numbers

**Activity A**

**Do this activity in your exercise book.**

**Remember!**
When subtracting, subtract the numbers in the ones column first!

**1.** 8,595 - 4,372 = _____
**2.** 6,438 - 2,217 = _____
**3.** 12,678 - 10,345 = _____
**4.** 587,489 - 253,174 = _____
**5.** 123,784 - 23,132 = _____
**6.** 847,999 - 730,652 = _____
**7.** 627,999 - 10,647 = _____
**8.** 789,452 - 456,331 = _____
**9.** 972,456 - 721,324 =
**10.** 654,789 - 521,437 =
**11.** 467,389 - 25,073 =

**12.** A student was conducting a survey of vehicles that passed the school in a day. She collected this data. The total number of vehicles was 3,073. 588 were coloured and the rest were white. How many were white?

# Unit 3

**Activity B**

**Copy and complete this activity in your exercise book.**

**Example**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | | | | 12 | 16 |
| | 1 | 8 | 5 | 3 | 6 |
| - | | 5 | 3 | 5 | 9 |
| | 1 | 3 | 2 | 7 | 7 |

**1.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 5 | 8 | 9 | 4 | 6 |
| – | 2 | 5 | 3 | 5 | 9 |
| | | | | | |

**2.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 6 | 3 | 8 | 5 | 6 |
| – | 2 | 7 | 2 | 7 | 9 |
| | | | | | |

**3.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 8 | 9 | 3 | 7 | 3 |
| – | 4 | 5 | 1 | 6 | 8 |
| | | | | | |

**4.**

| | T.Th | Th | H | T | O |
|---|---|---|---|---|---|
| | 4 | 6 | 7 | 8 | 1 |
| – | 3 | 6 | 5 | 9 | 5 |
| | | | | | |

**5.** 723,456 - 367,489 = _____

**6.** 52,378 - 4,679 = _____

**7.** 278,682 - 99,589 = _____

**8.** 52,378 - 4,679 = _____

**9.** 529,375 - 127,432 =

**10.** 649,335 - 84,561 =

**11.** 716,496 - 176,649 =

**12.** 18,536 people turned up to watch the musical show at Rove football ground. 7,948 of the them were females. How many were males?

**Activity C**

**Copy and answer the problems in your exercise book. Show your working out.**

**1.** The stadium seats 2,200 people. 1,876 people turned up to watch the football match. How many seats were empty?

**2.** In a large football crowd there were 563,012 men and 208,957 women. How many more men were there than women?

**3.** The shelf needs to be 3.62m long. The timber that Peter bought is 4.25m long. How much will he need to saw off the board to make the shelf?

**4.** The children had $75.75 to pay for making the shelves. The timber cost $46.80. How much did they have left to buy screws and brackets to put up the shelves?

**5.** Standard 5 pupils collected $524. They bought red paint for $138.75 and blue paint for $163.35, how much money was left?

# 3a Rounding and Estimating

**Activity A**

**Round each number to the nearest 10 and work out an estimated answer. The first one has been done for you.**

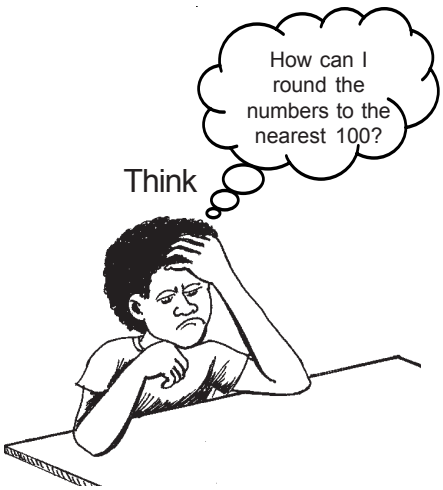
| | round off | estimate | actual answer |
|---|---|---|---|
| **1.** 19 – 11 = | 20 – 10 | 10 | 8 |
| **2.** 21 – 9 = | | | |
| **3.** 19 – 9 = | | | |
| **4.** 36 – 25 = | | | |
| **5.** 21 – 19 = | | | |

| | round off | estimate | actual answer |
|---|---|---|---|
| **6.** 33 – 21 = | | | |
| **7.** 57 – 41 = | | | |
| 8. 37 – 16 = | | | |
| **9.** 28 – 16 = | | | |
| **10.** 36 – 21 = | | | |

**Activity B**
**Copy and complete the tables.**

| | estimate by rounding to the nearest 10 | actual calculation |
|---|---|---|
| **1.** 360 - 270 = | 90 | 90 |
| **2.** 250 - 155 = | 90 | |
| **3.** 321 - 174 = | | |
| **4.** 160 - 30 = | | |
| **5.** 266 - 257 = | | |

| | estimate by rounding to the nearest 100 | actual calculation |
|---|---|---|
| **6.** 374 - 168 = | | |
| **7.** 379 - 290 = | | |
| **8.** 277 - 109 = | | |
| **9.** 579 - 404 = | | |
| **10.** 363 - 89 = | | |




Compare your estimates and your calculations.

Which is more accurate rounding to the nearest 10 or rounding to the nearest 100?

Discuss your answers and reasons with a partner.

# Unit 3

**Activity C**

**For each of the following problems first make an estimate and then calculate your answer. Compare your estimated answer and your actual calculation.**

**Joe**

1 pair of shorts
1 T-Shirt
1 pair of socks

**Anne**

1 dress
1 pair of pants

**Mary**

1 pair of pants
2 pairs of socks


1. How much money does each child need to buy the items on their list?
2. How much change will each child receive from $100?

## 4b Problem Solving

**What is the problem?**

Use these questions to help you with problem solving.
1. What is the question to be answered?
2. What information does it tell you?
3. What do you need to do?
4. How will you do this?

**Activity A**

1. Nukiki Primary school has 350 pupils. After the Standard 6 exam in September, 43 Standard 6 pupils did not come to school. How many pupils were coming to school in November?

2. 535 parents attended the principal's talk at the school open day but the school only has 340 chairs. How many had to stand?

3. A barge left Afio loaded with 580 sacks of copra. 113 sacks were damaged by the rain and rough sea and 22 sacks fell overboard. How many sacks could be sold in Honiara?

4. 28 pupils travelled to Yandina in the school canoe for the sports carnival. After the carnival 3 remained behind to stay with their wantoks and 8 found their own transport home. How many travelled home in the school canoe?

## Activity B

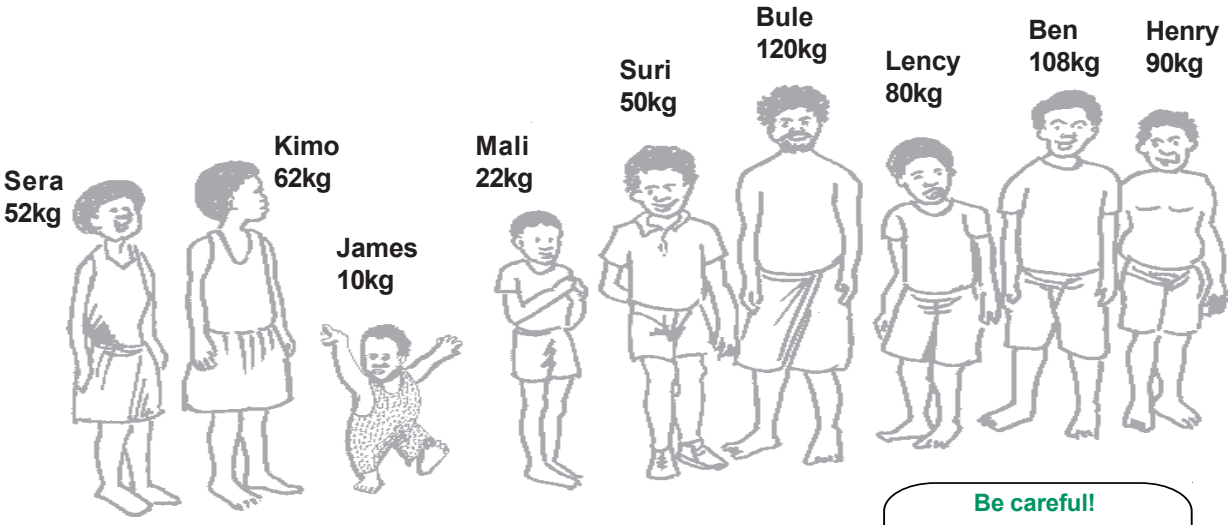
**Remember!**
You can use your mental subtraction strategies or you can write the problem down. You decide which way is best for you.

**1.** Ruth bought a 20 kg bag of flour. Starting on Monday morning, she used 500 g flour each morning to make ring-cakes.

**a.** How much flour was left in the bag after she had made her cakes on Friday?

**b.** For how many weeks will the bag of flour last if Ruth does not make ring-cakes at the weekends?

**2.** The 9 passengers who want to travel on the islander weigh a total of 594 kg, but the plane can only carry 452 kg.




**a.** Who will have to get off before the plane can take off?

**b.** Can you find more than one correct answer?

**Be careful!**
Some of these problems need you to use different operations not just subtraction.

**3.** 18 pupils from Standard 4 and 14 from Standard 5 want to travel to the sports carnival in a nearby village. Four teachers will go with them. Only ten people can travel in the school canoe at once.

**a.** How many trips will the canoe have to make to get everyone there?

**b.** Will there be any space for any Standard 3 pupils? How many?

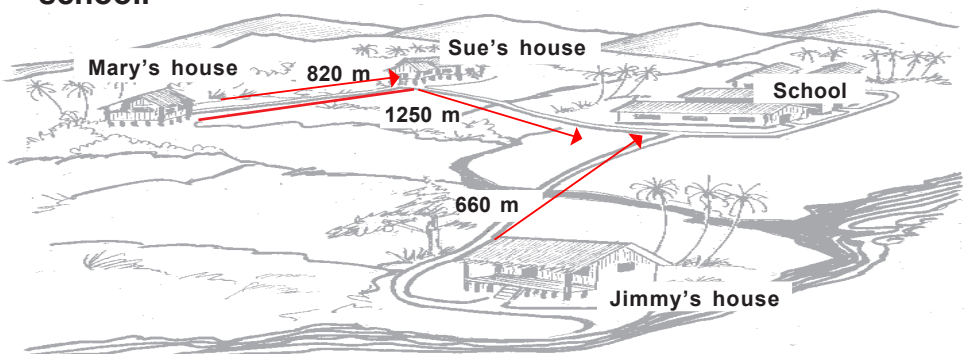
**c.** If 11 of the pupils decided to sleep at the village, how many trips would be needed to get everyone else back home?

# Unit 3

**Activity C**

**Read through the problems. Work out the answers. Show all your working out in your exercise book.**

1. **The distance from Mary's house to Sue's house is 820 metres and from Mary's house to the school is 1,250 metres. Jimmy lives 660 metres away from the school.**




   **a.** How far does Sue have to walk to school?

   **b.** What is the distance from Mary's house to Jimmy's house?

   **c.** If Sue walks to school and back every day, how far will she have to walk in a week?

   **d.** If Sue was absent from school for 2 days in one week because she was sick, How far did she walk in that week?

   **f.** If Jimmy and Mary visit Sue while she is sick, who has to walk the furthest to get to her house?

2. **The population of the Central Islands at the 1999 census was 19,368. Ngella had 9,973 people and Russell Islands 5,960. The rest of the people lived on Savo.**

   **a.** How many people were living on Savo?

   **b.** Of the total population 3,492 were 15 years of age or under and 1,864 were 60 years or over. How many people were aged between 16 and 59?

3. **There were 1,492 people at St. Barnabas Cathedral last Sunday morning. 743 were women, 482 were children and the rest were men.**

   **Half way through the service the children all went out to Sunday School and after the service the women were asked to stay behind for a meeting.**

   **a.** How many men were in church on Sunday morning?

   **b.** How many adults were left when the children went to Sunday School?

   **c.** How many people left the church while the women stayed behind?

   **d.** How many more women than men were at the Cathedral?

# Check Up Page

**1.** 239 + 65 = ____

**2.** 2,518 + 7,462 = ____

**3.** 79,363 - 6,439 = ____

**4.** 6,475 + 560 = ____

**5.** 2,384 - 579 = ____

**6.**

| T.th | Th | H | T | O |
|---|---|---|---|---|
| 5 | 8 | 9 | 4 | 6 |
| - 2 | 5 | 3 | 5 | 9 |
| | | | | |

**7.**

| T.th | Th | H | T | O |
|---|---|---|---|---|
| 6 | 3 | 8 | 5 | 6 |
| - 2 | 7 | 2 | 7 | 9 |
| | | | | |

**8.**

| T.th | Th | H | T | O |
|---|---|---|---|---|
| 8 | 9 | 3 | 7 | 3 |
| - 4 | 5 | 1 | 6 | 8 |
| | | | | |

**9.**

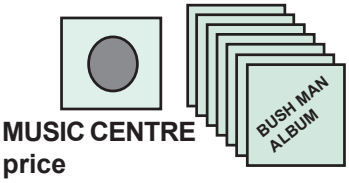
| T.th | Th | H | T | O |
|---|---|---|---|---|
| 4 | 6 | 7 | 8 | 1 |
| - 3 | 6 | 5 | 9 | 5 |
| | | | | |

**10.** 230 passengers boarded a plane in Honiara on the way to Auckland. The plane stopped in Port Vila where 150 passengers got off and 50 got on.
How many people were in the plane when it left Port Vila?


**11.** A group has made 3 singles and 1 album.
The singles cost $3.75 each and the album is $11.50

**a.** Which is cheaper to buy, all 3 singles or the album?

**b.** What is the difference?




**MUSIC CENTRE**
**price**
**Album $11.50**
**Singles $3.75**

**12.** An electricity pylon is 15 metres high. It stands 4 metres higher than a church building which is 9 metres shorter than a nearby tree. How tall is the tree?


**13.** Jane was given $50 for her birthday.
She bought two CDs and two tapes.
How much of her $50 did she have left?

# Unit 4

## 1a Equivalent Fractions

### Activity A

**Find the equivalent fractions using the fractions chart.**

**Example:1.** $\frac{1}{2}+\frac{1}{2}=\frac{2}{4}$

| One whole | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\frac{1}{2}$ | | | | | | | | $\frac{1}{2}$ | | | | | | | |
| $\frac{1}{4}$ | | | | $\frac{1}{4}$ | | | | $\frac{1}{4}$ | | | | $\frac{1}{4}$ | | | |
| $\frac{1}{8}$ | | $\frac{1}{8}$ | | $\frac{1}{8}$ | | $\frac{1}{8}$ | | $\frac{1}{8}$ | | $\frac{1}{8}$ | | $\frac{1}{8}$ | | $\frac{1}{8}$ | |
| $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ |

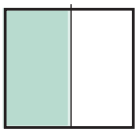
**1.** $\frac{1}{2}=\frac{?}{4}$ **2.** $\frac{1}{2}=\frac{?}{8}$

**3.** $\frac{3}{4}=\frac{?}{8}$ **4.** $\frac{3}{8}=\frac{?}{16}$

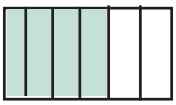
**5.** $\frac{4}{16}=\frac{?}{4}$ **6.** 1 whole $=\frac{?}{16}$

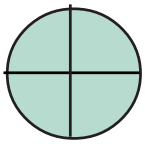
### Activity B

**Name two equivalent fractions for the shaded part of each shape.**

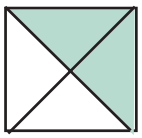
**Example:**  $\frac{1}{2}=\frac{2}{4}$

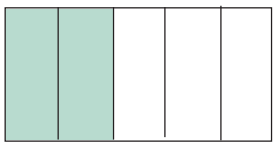
**Remember!**
If the fractions have the same value, they are equivalent.

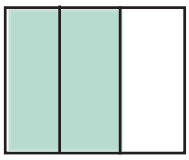
**1.** 

**2.** 

**3.** 

**4.** 

**5.** 

**6.** 

### Activity C

**Choose the correct equivalent fraction.**

**Example:** $\frac{2}{16}$

a. 1 quarter
b. 2 quarters
c. 1 eighth

**Answer = 1 eighth (c)**

**1.** $\frac{2}{16}$
**a.** 1 quarter
**b.** 2 quarters
**c.** 1 eighth

**2.** $\frac{1}{4}$
**a.** 1 half
**b.** 2 eighths
**c.** 4 eighths

**3.** $\frac{3}{4}$
**a.** 6 eighths
**b.** 1 half
**c.** 10 sixteenths

**4.** $\frac{5}{8}$
**a.** 3 quarters
**b.** 10 sixteenths
**c.** 1 half

**5.** $\frac{8}{16}$
**a.** 3 eighths
**b.** 1 quarter
**c.** 1 half

**6.** $\frac{3}{8}$
**a.** 1 half
**b.** 2 quarters
**c.** 6 sixteenths

## 1b Using a Fraction Chart

### Activity A

**Find the equivalent fractions for these using the fractions chart.**

| one whole | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $\frac{1}{3}$ | | | | $\frac{1}{3}$ | | | | $\frac{1}{3}$ | | | |
| $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | | $\frac{1}{6}$ | |
| $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ |

**Example:** $\frac{1}{3} = \frac{2}{6}$

**Remember!**
In a fraction the number above the line is the **numerator**. The number below the line is the **denominator.**

**1.** $\frac{1}{3} = \frac{\square}{12}$ **2.** $\frac{2}{3} = \frac{\square}{12}$ **3.** $\frac{2}{6} = \frac{\square}{3}$ **4.** $\frac{6}{6} = \frac{\square}{3}$

**5.** $\frac{4}{6} = \frac{\square}{3}$ **6.** $\frac{4}{6} = \frac{\square}{12}$ **7.** $\frac{3}{3} = \frac{6}{\square}$ **8.** $\frac{8}{12} = \frac{4}{\square}$

### Activity B

**Copy and answer these questions in your exercise book**

| one whole | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| $\frac{1}{3}$ | | | $\frac{1}{3}$ | | | $\frac{1}{3}$ | | |
| $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ | $\frac{1}{9}$ |

**Example:** $\frac{1}{3} = \frac{3}{9}$

**Remember!**
Equivalent means having the same value.

**1.** $\frac{1}{3} = \frac{\square}{9}$ **2.** $\frac{2}{3} = \frac{\square}{9}$ **3.** $\frac{3}{9} = \frac{\square}{3}$ **4.** $\frac{2}{3} = \frac{6}{\square}$

**5.** $\frac{6}{9} = \frac{\square}{6}$ **6.** $\frac{9}{9} = \frac{\square}{3}$ **7.** $1 = \frac{\square}{3}$ **8.** $\frac{3}{3} = \frac{9}{\square}$

# Unit 4

**Activity C.**

**1. Find the equivalent fractions using the fractions chart below.**

| one whole | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $\frac{1}{5}$ | | | $\frac{1}{5}$ | | | $\frac{1}{5}$ | | | $\frac{1}{5}$ | | | $\frac{1}{5}$ | | |
| $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ | $\frac{1}{15}$ |

**a.** $\frac{2}{5} = \frac{\square}{15}$ **b.** $\frac{4}{5} = \frac{\square}{15}$ **c.** $\frac{3}{15} = \frac{\square}{5}$ **d.** $\frac{9}{15} = \frac{\square}{5}$

**e.** $\frac{1}{5} = \frac{\square}{15}$ **f.** $\frac{5}{5} = \frac{\square}{15}$

**Find these equivalent fractions. You may need to look back in your Pupil's Resource Book to use the other fraction charts.**

**2.** $\frac{1}{4} = \frac{\square}{\square}$ **3.** $\frac{1}{8} = \frac{\square}{\square}$ **4.** $\frac{1}{2} = \frac{\square}{\square}$ **5.** $\frac{3}{4} = \frac{\square}{\square}$

**6.** $\frac{2}{4} = \frac{\square}{\square}$ **7.** $\frac{2}{8} = \frac{\square}{\square}$ **8.** $\frac{1}{2} = \frac{2}{4} = \frac{\square}{8}$

**9.** $\frac{1}{4} = \frac{\square}{8} = \frac{\square}{16}$ **10.** $\frac{4}{16} = \frac{\square}{8} = \frac{\square}{4}$ **11.** $1 = \frac{\square}{2} = \frac{\square}{4} = \frac{\square}{\square}$

**12.** $\frac{3}{3} = \square$ **13.** $\frac{6}{6} = \square$ **14.** $\frac{5}{5} = \square$

## 1c Calculating Equivalent Fractions

**Activity A**

**Copy and complete these equivalent fractions. The first one has been done for you.**

**Remember!**
Multiply the denominator and the numerator of each fraction by the same number to make an equivalent fraction.

**1.** $\frac{\mathbf{1}}{\mathbf{3}} = \frac{\mathbf{2}}{\mathbf{6}}$ **2.** $\frac{2}{6} = \frac{\square}{12}$ **3.** $\frac{5}{6} = \frac{\square}{24}$

**4.** $\frac{3}{9} = \frac{\square}{18}$ **5.** $\frac{4}{12} = \frac{\square}{3}$ **6.** $\frac{7}{9} = \frac{\square}{18}$ **7.** $\frac{3}{3} = \frac{\square}{6}$

**8.** $\frac{1}{6} = \frac{\square}{18}$ **9.** $\frac{9}{9} = \frac{\square}{1}$ **10.** $\frac{2}{5} = \frac{4}{\square}$ **11.** $\frac{3}{4} = \frac{9}{\square}$

**Activity B**

**Give three equivalent fractions for each fraction. The first one has been done for you. Copy this into your exercise book and set out the others in the same way to show your working.**

**1.** $\frac{2}{5}$ $\frac{2x2}{5x2} = \frac{4}{10}$ $\frac{2x3}{5x3} = \frac{6}{15}$ $\frac{2x4}{5x4} = \frac{8}{20}$

**2.** $\frac{1}{6} = \frac{1x2}{6x2}$ ◯ = ◯ = ◯

**3.** $\frac{3}{5}$ = ◯ = ◯ = ◯

**4.** $\frac{2}{9}$ = ◯ = ◯ = ◯

**5.** $\frac{1}{2}$ = ◯ = ◯ = ◯

**6.** $\frac{3}{4}$ ◯ ◯ ◯

**Activity C.**

**Find six equivalent fractions for each of the fractions below.**
**Use the method shown in the example.**

**Example.**

$\frac{2}{3} = \frac{x\,2}{x\,2} = \boxed{\frac{4}{6}}$ $\frac{2}{3} = \frac{x\,3}{x\,3} = \boxed{\frac{6}{9}}$ $\frac{2}{3} = \frac{x\,4}{x\,4} = \boxed{\frac{8}{12}}$ $\frac{2}{3} = \frac{x\,5}{x\,5} = \boxed{\frac{10}{15}}$ $\frac{2}{3} = \frac{x\,6}{x\,6} = \boxed{\frac{12}{18}}$

**1.** $\frac{2}{3} =$ ☐ ☐ ☐ ☐ ☐ ☐

**2.** $\frac{1}{6} =$ ☐ ☐ ☐ ☐ ☐ ☐

# Unit 4

3. $\frac{1}{8} =$ ☐ ☐ ☐ ☐ ☐ ☐

4. $\frac{3}{4} =$ ☐ ☐ ☐ ☐ ☐ ☐

5. $\frac{2}{4} =$ ☐ ☐ ☐ ☐ ☐ ☐

6. $\frac{2}{6} =$ ☐ ☐ ☐ ☐ ☐ ☐

## 1d Simplifying Fractions

### Activity A

**Simplify each fraction to its simplest form. The example shows two ways to do this. One is a long way of doing it and the other is a shorthand way. Both give the same, right answer.**

**Example:** $\frac{8}{16} = \frac{\div 4}{\div 4} = \frac{2}{4} \frac{\div 2}{\div 2} = \frac{1}{2}$ or $\frac{\cancel{8}}{\cancel{16}} = \frac{\cancel{2}}{\cancel{4}} = \frac{1}{2}$

or $\frac{8}{16} = \frac{\div 2}{\div 2} = \frac{4}{8} \frac{\div 4}{\div 4} = \frac{1}{2}$ or $\frac{\cancel{8}}{\cancel{16}} = \frac{\cancel{4}}{\cancel{8}} = \frac{1}{2}$ or $\frac{\cancel{8}}{\cancel{16}} = \frac{1}{2}$

**Remember!**
There may be more than one way to get to the right answer.

1. $\frac{5}{15} =$ 2. $\frac{6}{10} =$ 3. $\frac{4}{8} =$ 4. $\frac{4}{12} =$

5. $\frac{3}{15} =$ 6. $\frac{4}{10} =$ 7. $\frac{6}{9} =$ 8. $\frac{4}{16} =$

### Activity B

**Simplify these fractions to their simplest forms using the short hand method shown in the example.**

**Remember there may be more than one way to get to the right answer.**

**Remember!**
A number which divides into another number without leaving a remainder is the factor of that number.

a. $\frac{\cancel{8}}{\cancel{16}} = \frac{\cancel{2}}{\cancel{4}} = \frac{1}{2}$ b. $\frac{\cancel{16}}{\cancel{32}} = \frac{\cancel{4}}{\cancel{8}} = \frac{1}{2}$

1. $\frac{8}{12} =$ 2. $\frac{12}{16} =$ 3. $\frac{6}{18} =$ 4. $\frac{16}{20} =$

**5.** $\frac{12}{18} =$ **6.** $\frac{8}{16} =$ **7.** $\frac{12}{20} =$ **8.** $\frac{6}{12} =$

**9.** $\frac{10}{16} =$ **10.** $\frac{8}{20} =$ **11.** $\frac{15}{30} =$ **12.** $\frac{16}{28} =$

## 2a Adding Fractions

### Activity A

**Copy the following shapes into your books. Write the fractions to show the shaded parts in both shapes. Add the two fractions to find the answer. An example has been done for you.**

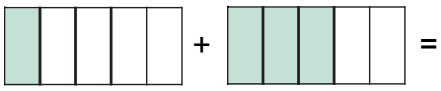
**Example**

$\frac{2}{5} + \frac{2}{5} = \frac{4}{5}$

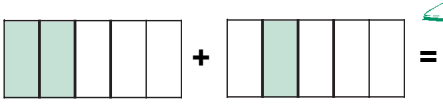
**Remember!**

Add the numerators (the top numbers) if the denominators (the bottom numbers) are the same. The denominator does not change in the answer.

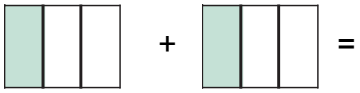
**1.**



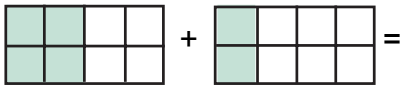
**2.**



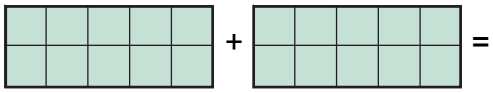
**3.**



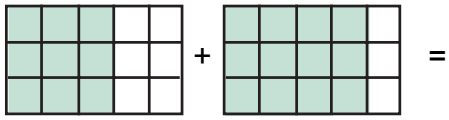
**4.**



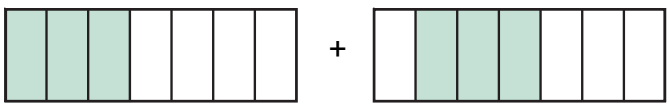
**5.**



**6.**



**7.**



### Activity B

**Do the following fraction additions in your exercise book. Copy the question and then work out the answer.**

**Look at your answers. Can any of the answers be simplified? If they can write them in their simplest form.**

**1.** $\frac{3}{6} + \frac{2}{6} =$ **2.** $\frac{4}{9} + \frac{2}{9} =$ **3.** $\frac{1}{5} + \frac{3}{5} =$ **4.** $\frac{2}{4} + \frac{1}{4} =$

**5.** $\frac{5}{12}+\frac{4}{12}=$ **6.** $\frac{4}{8}+\frac{3}{8}=$ **7.** $\frac{5}{10}+\frac{1}{10}=$ **8.** $\frac{3}{7}+\frac{1}{7}=$

**9.** $\frac{1}{3}+\frac{2}{3}=$ **10.** $\frac{2}{9}+\frac{4}{9}=$ **11.** $\frac{4}{11}+\frac{5}{11}=$ **12.** $\frac{1}{6}+\frac{3}{6}=$

**Activity C**

**Read these problems and write out the fraction sums they contain and then work out the answer.**

**Example:**

Betty weeded $\frac{1}{5}$ of the garden and Sam weeded $\frac{2}{5}$.

How much of the garden did they weed altogether?

$\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$

**1.** John brushed $\frac{1}{3}$ of his garden yesterday and another $\frac{2}{3}$ today.

How much of his garden has he brushed altogether?

**2.** Mary walked from home to the shop in $\frac{1}{4}$ of an hour. She then walked to her Uncle's house in $\frac{1}{4}$ of an hour. For how long did she walk altogether?

**3.** Kate ate $\frac{2}{6}$ of a pawpaw. Her brother ate $\frac{1}{6}$ of the pawpaw. How much of the whole pawpaw was there left?

**4.** $\frac{2}{5}$ of the tank was filled with water. The rain this afternoon filled another $\frac{2}{5}$.

What fraction of the tank is still empty?

**5.** If Steven planted $\frac{2}{5}$ of his cocoa plants in the morning and $\frac{1}{5}$ of his cocoa plants in the afternoon what fraction of his plants did he have left to plant?

## 2b Subtracting Fractions

**Remember!**

To subtract fractions which have the same denominators subtract the numerators only. The denominator remains the same.

**Activity A**

**Do these fraction subtractions in your exercise book. An example has been done for you.**

**Example:** $\frac{8}{10}-\frac{3}{10}=\frac{5}{10}$

**1.** $\frac{3}{4} - \frac{2}{4} =$ **2.** $\frac{5}{8} - \frac{3}{8} =$ **3.** $\frac{6}{9} - \frac{3}{9} =$ **4.** $\frac{8}{9} - \frac{5}{9} =$

**5.** $\frac{11}{12} - \frac{3}{12} =$ **6.** $\frac{4}{5} - \frac{3}{5} =$ **7.** $\frac{7}{7} - \frac{4}{7} =$ **8.** $\frac{6}{10} - \frac{1}{10} =$

**9.** $\frac{6}{6} - \frac{1}{6} =$ **10.** $\frac{2}{3} - \frac{1}{3} =$ **11.** $\frac{15}{16} - \frac{8}{16} =$ **12.** $\frac{7}{10} - \frac{6}{10} =$

**Now look at your answers. Can any of them be simplified?**

**Activity B**

**Do these fraction subtractions in your exercise book. Simplify your answers to their simplest form.**

**An example has been done for you.**

**Example:** $\frac{7}{9} - \frac{4}{9} = \frac{7-4}{9} = \frac{\cancel{3}}{\cancel{9}} = \frac{1}{3}$

**1.** $\frac{7}{9} - \frac{4}{9} =$ **2.** $\frac{10}{12} - \frac{6}{12} =$ **3.** $\frac{8}{15} - \frac{3}{15} =$ **4.** $\frac{14}{16} - \frac{6}{16} =$

**5.** $\frac{19}{20} - \frac{7}{20} =$ **6.** $\frac{15}{15} - \frac{5}{15} =$ **7.** $\frac{8}{8} - \frac{4}{8} =$ **8.** $\frac{8}{15} - \frac{5}{15} =$

**9.** $\frac{13}{18} - \frac{7}{18} =$ **10.** $\frac{15}{20} - \frac{5}{20} =$ **11.** $\frac{12}{16} - \frac{8}{16} =$ **12.** $\frac{11}{14} - \frac{4}{14} =$

## 2c Adding Mixed Fractions

**Hint**

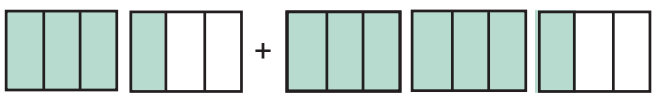
When adding mixed fractions add the fractions part first and then add the whole numbers.

**Activity A**

**Look at the example.**

**Write each addition and calculate the answer in your exercise book.**

**Example:**



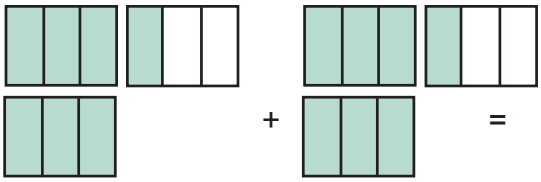
$1\frac{1}{3} + 2\frac{1}{3} = 3\frac{2}{3}$

\+

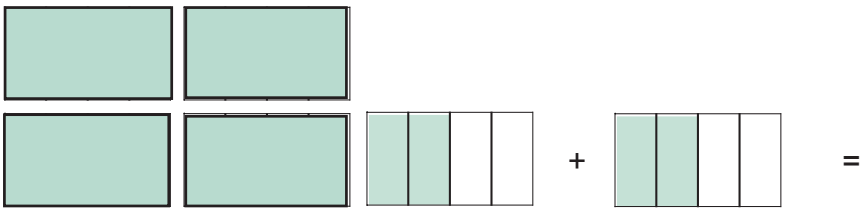
| Ones | Thirds |
|---|---|
| 1 | $\frac{1}{3}$ |
| 2 | $\frac{2}{3}$ |
| 3 | $\frac{2}{3}$ |

# Unit 4

**1.**



**2.**



**3.** $1\frac{3}{9}+4\frac{2}{9}=$ **4.** $3\frac{3}{7}+4\frac{1}{7}=$ **5.** $2\frac{4}{10}+4\frac{5}{10}=$ **6.** $3\frac{7}{15}+7\frac{3}{15}=$

**7.** $3\frac{3}{5}+8\frac{1}{5}=$ **8.** $2\frac{7}{20}+6\frac{11}{20}=$ **9.** $5\frac{5}{12}+8\frac{4}{12}=$ **10.** $14\frac{8}{15}+3\frac{4}{15}=$

**11.** $5\frac{7}{9}$ + $6\frac{1}{9}$ **12.** $2\frac{3}{8}$ + $\frac{4}{8}$ **13.** $\frac{5}{7}$ + $10\frac{1}{7}$ **14.** $16\frac{1}{6}$ + $10\frac{3}{6}$

**Activity B**

**Look at the example. It shows how to add mixed fractions with regrouping. Complete the activity in your exercise book.**

**Example:** $1\frac{3}{10}$ + $1\frac{8}{10}$

We say $\frac{3}{10}$ + $\frac{8}{10}$ equals $\frac{11}{10}$.

$\frac{11}{10}$ can be regrouped to make 1 whole and $\frac{1}{10}$.

Write $\frac{1}{10}$ in the fraction column and the one in the ones column.

Now 1+1+1 = 3. Answer = $3\frac{1}{10}$

**1.** $1\frac{7}{10}$ + $2\frac{7}{10}$ **2.** $2\frac{3}{8}$ + $1\frac{6}{8}$ **3.** $\frac{5}{7}$ + $10\frac{4}{7}$ **4.** $2\frac{2}{6}$ + $2\frac{5}{6}$

**5.** $5\frac{1}{5} + 1\frac{4}{5}$ = ____

**6.** $2\frac{3}{4} + \frac{3}{4}$ = ____

**7.** $\frac{5}{8} + \frac{5}{8}$ = ____

**8.** $6\frac{4}{7} + 1\frac{4}{7}$ = ____

**9.** $5\frac{7}{9} + 6\frac{3}{9}$ = ____

**10.** $1\frac{2}{3} + 2\frac{2}{3}$ = ____

**11.** $\frac{6}{7} + 1\frac{3}{7}$ = ____

**12.** $2\frac{4}{6} + \frac{5}{6}$ = ____

**Activity C**

**Write out these mixed fraction additions in your exercise book and work out the answers.**

**1.** $3\frac{3}{4} + 2\frac{3}{4}$ =

**2.** $5\frac{2}{5} + 1\frac{4}{5}$ =

**3.** $1\frac{5}{6} + 10\frac{4}{6}$ =

**4.** $\frac{7}{9} + 3\frac{4}{9}$ =

**5.** $2\frac{5}{7} + 3\frac{6}{7}$ =

**6.** $1\frac{9}{10} + 2\frac{7}{10}$ =

**7.** $1\frac{2}{3} + 2\frac{2}{3} + 3\frac{2}{3}$ =

**8.** $2\frac{3}{4} + 1\frac{2}{4} + 3\frac{3}{4}$ =

## 2d Subtracting Mixed Fractions

**Important**

In a mixed fraction subtraction subtract the fractions first then subtract the whole numbers.

**Activity A**

**Caculate these mixed fraction subtraction sums. Write the sum as well as your answer in your exercise book.**

**1.** $10\frac{7}{9} - 4\frac{2}{9}$ =

**2.** $13\frac{3}{7} - 4\frac{1}{7}$ =

**3.** $12\frac{5}{10} - 8\frac{5}{10}$ =

**4.** $7\frac{7}{15} - 3\frac{3}{15}$ =

**5.** $8\frac{3}{5} - 8\frac{1}{5}$ =

**6.** $12\frac{17}{20} - 6\frac{11}{20}$ =

**7.** $9\frac{7}{9} - 6\frac{1}{9}$ = ____

**8.** $2\frac{4}{8} - \frac{2}{8}$ = ____

**9.** $11\frac{5}{7} - 10\frac{1}{7}$ = ____

**10.** $16\frac{4}{6} - 10\frac{3}{6}$ = ____

**11.** $18\frac{7}{8} - 10\frac{3}{8}$ = ____

**12.** $18\frac{7}{8} - 13\frac{3}{8}$ = ____

# Unit 4

**Rewrite these subtraction sums in vertical form in your exercise book and work out the answers.**

**1.** $10\frac{2}{9} - 4\frac{7}{9} =$ **2.** $13\frac{1}{7} - 4\frac{3}{7} =$ **3.** $12\frac{4}{10} - 8\frac{5}{10} =$

**4.** $7\frac{3}{15} - 3\frac{7}{15} =$ **5.** $8\frac{1}{10} - 7\frac{5}{10} =$ **6.** $12\frac{8}{16} - 6\frac{9}{16} =$

**Now calculate the following subtractions.**

**7.** $9\frac{1}{9} - 6\frac{7}{9}$ **8.** $2\frac{2}{8} - \frac{4}{8}$ **9.** $11\frac{1}{7} - 10\frac{5}{7}$ **10.** $16\frac{3}{6} - 10\frac{4}{6}$

**11.** $18\frac{3}{8} - 10\frac{6}{8}$ **12.** $18\frac{4}{8} - 10\frac{7}{8}$ **13.** $11\frac{4}{9} - 10\frac{6}{9}$ **14.** $1\frac{1}{5} - \frac{2}{5}$

**Activity C**

**1.** What is the difference between $3\frac{1}{4}$ and $2\frac{3}{4}$ ?

**2.** Serah took 120 coconuts to the market. She sold $\frac{3}{4}$ of her coconuts on the first day. How many coconuts were left for the next day?

**3.** Martha cut up 20 cakes for a fund raising weekend function. She cut each cake into eight pieces. If she sold 3Q of her cakes on Friday and 6N of her cakes on Saturday, how many pieces of cake did she have left to sell on Sunday?

**4.** Jim helps out at the local service station each weekend and earns $36.00. If he saves $\frac{2}{3}$ of this, what fraction does he spend?

**5.** Beti lives 6 km from school. She walks $\frac{1}{3}$ of this distance to the bus stop.

**a.** What fraction of the distance does she travel by bus?

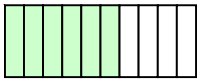
**b.** How many kilometres is the bus stop from her home?

# 3a Fractions as Decimals

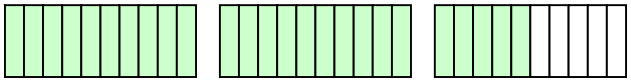

## Activity A

**Study the examples first, then draw and shade each fraction in your exercise book.**

**Examples**



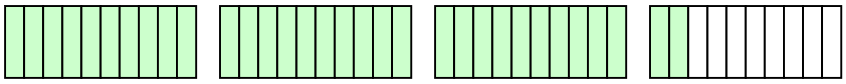
**6 tenths of the shape is shaded, that is $\frac{6}{10}$**

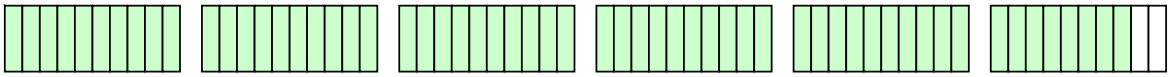


**Two wholes and 5 tenths are shaded, that is $2\frac{5}{10}$**

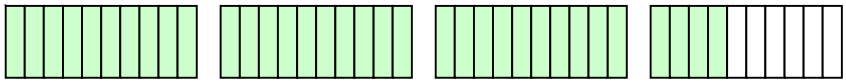
1. $1\frac{2}{10}$
2. $\frac{7}{10}$
3. four and four tenths
4. one tenth
5. $3\frac{9}{10}$

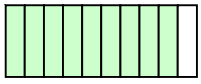
**Write down the mixed fractions represented by each of the following diagrams in your exercise book. You do not need to copy the diagrams.**

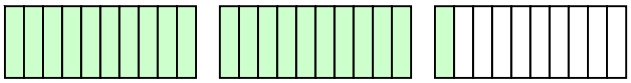
6. 

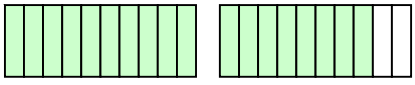
7. 

8. 

9. 

10. 

11. 

12. 

# Unit 4

## 3b Decimal Fractions

**Reminder**

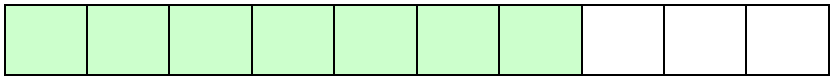
1 ten means 10 ones.
1 tenth means a tenth part of one whole.

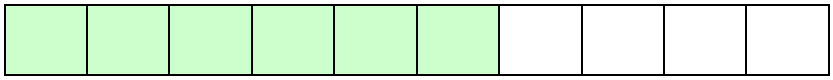
### Activity A

**Write the fraction and the decimal represented by the shaded parts of these rectangles. Do not draw the rectangles. The first one has been done for you.**

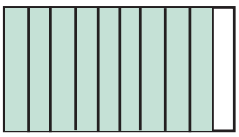
1. 

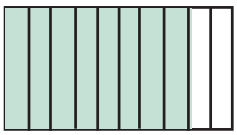
$\frac{2}{10} = 0.2$

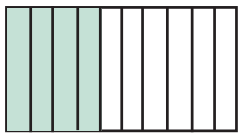
2. 

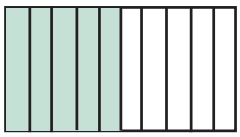
3. 

4. 

5. 

6. 

7. 

8. 

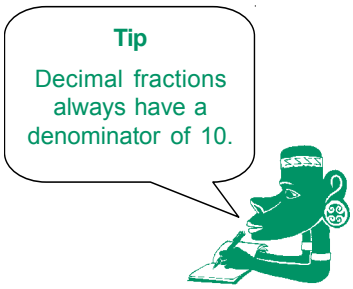
### Activity B

**Copy the tables and fill in the missing fractions.**

| Fraction | Decimal |
|---|---|
| **1.** $\frac{2}{10}$ | |
| **2.** | 0.5 |
| **3.** $\frac{6}{10}$ | |
| **4.** $\frac{3}{10}$ | |
| **5.** | 0.9 |

| Fraction | Decimal |
|---|---|
| **6.** $\frac{4}{10}$ | |
| **7.** | 0.8 |
| **8.** $\frac{7}{10}$ | |
| **9.** | 0.3 |
| **10.** $\frac{5}{10}$ | |

## 3c Fractions as Decimals




**Activity A**

**Write these fractions as decimals.**

**1.** $\frac{3}{10}$ **2.** $\frac{2}{10}$ **3.** $\frac{9}{10}$ **4.** $\frac{7}{10}$

**5.** $\frac{4}{10}$ **6.** $\frac{1}{10}$ **7.** $\frac{1}{5}$ **8.** $\frac{4}{5}$

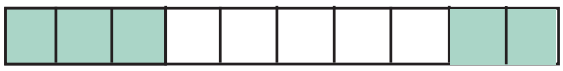
**Activity B**

**Change these mixed fractions into their equivalent decimal fraction forms.**

**1.** $4\frac{2}{10}$ **2.** $2\frac{1}{2}$ **3.** $3\frac{3}{10}$ **4.** $1\frac{1}{5}$

**5.** $5\frac{7}{10}$ **6.** $6\frac{2}{5}$ **7.** $9\frac{9}{10}$ **8.** $16\frac{3}{5}$

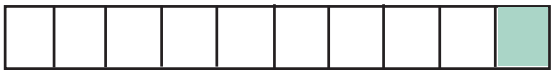
**Change these fractions to decimals. The first one has been done for you as an example.**

**9.**  $\frac{5}{10} = 0.5$

**10.** 

**11.** 

**12.** 

**13.** 

**14.** 

# Unit 4

**Activity C**

**Copy these tables into your exercise book and complete them.**

| | Fraction | Decimal |
|---|---|---|
| 1. | $\frac{7}{10}$ | |
| 2. | $\frac{2}{5}$ | |
| 3. | $\frac{1}{5}$ | |
| 4. | $\frac{3}{5}$ | |
| 5. | $\frac{1}{2}$ | |
| 6. | $\frac{9}{10}$ | |

**Watch out!**

| | Fraction in its simplest form | Decimal |
|---|---|---|
| 7. | | 0.9 |
| 8. | | 0.2 |
| 9. | | 0.8 |
| 10. | | 0.5 |
| 11. | | 0.4 |
| 12. | | 0.1 |

| | Fraction | Decimal |
|---|---|---|
| 13. | $2\frac{7}{10}$ | |
| 14. | | 5.3 |
| 15. | | 10.9 |
| 16. | $4\frac{1}{2}$ | |
| 17. | $8\frac{1}{5}$ | |
| 18. | | 3.1 |
| 19. | $7\frac{2}{5}$ | |
| 20. | | 1.5 |
| 21. | $6\frac{3}{5}$ | |
| 22. | | 10.8 |

## 4a Comparing Decimals and Fractions

### Activity A

**Write the** largest **of each pair of decimal fractions in your exercise book.**

**1.** 0.1, 0.5 **2.** 0.4, 0.3 **3.** 0.9, 0.7 **4.** 0.2, 0.5 **5.** 0.8, 0.6

**Write the** smallest **of each pair of decimal fractions in your exercise book.**

**6.** 0.1, 0.3 **7.** 0.2, 0.9 **8.** 0.7, 0.5 **9.** 0.8, 0.6 **10.** 0.1, 0.5

**There are three decimal fractions in each row, arrange them in order starting with the smallest.**

**11.** 0.7, 0.3, 0.9 **12.** 0.1, 0.8, 0.5 **13.** 0.5, 0.4, 0.6 **14.** 0.9, 1.1, 1.3

**15.** 1.4, 1.7, 1.9 **16.** 3.1, 2.6, 2.8 **17.** 5.0, 0.5, 5.8 **18.** 0.8, 0.5, 1.8

### Activity B

**Look at each pair of decimal fractions. Put in the symbol > or < to show their value. The first one has been done for you.**

**Reminder**
< means less than
> means greater than

**1.** 0.1 [<] 0.8 **2.** 0.3 [ ] 0.7 **3.** 0.9 [ ] 0.8

**4.** 0.6 [ ] 0.5 **5.** 0.7 [ ] 0.2 **6.** 1.3 [ ] 1.5

**7.** 1.8 [ ] 1.5 **8.** 1.9 [ ] 1.7 **9.** 2.3 [ ] 1.8

**Look at these decimal fractions. Put them in order starting with the** largest.

**10.** 0.6, 0.1, 0.4, 0.5 **11.** 0.8, 0.3, 1.6, 0.9

**12.** 0.1, 1.0, 1.1, 1.9

### Activity C

**Can you put these fractions in order? Begin with the** smallest.

**Remember!**
$\frac{1}{10} = 0.1$
$\frac{1}{10}$ is a common fraction
0.1 is a decimal fraction.

**1.** 0.3, $\frac{4}{10}$, 0.2, 0.9 **2.** 0.5, $\frac{3}{10}$, $\frac{8}{10}$, 0.9

**3.** 0.9, 0.4, 0.5, $\frac{6}{10}$ **4.** 2.1, 2.4, $2\frac{3}{10}$, 2.2

**5.** 2.5, 2.4, 2.1, $\frac{9}{10}$

# Unit 4

**Put these in order. Begin with the biggest.**

**6.** 1.3, $1\frac{1}{2}$, 0.9, 0.7

**7.** 1.4, 1.5, $1\frac{3}{5}$, $1\frac{9}{10}$

**8.** 0.5, 1.5, 1.9, $1\frac{4}{5}$

**9.** 1.8, 2.3, $2\frac{2}{5}$, $1\frac{3}{5}$

**10.** 0.9, 0.1, $\frac{3}{5}$, $\frac{2}{5}$, $\frac{7}{10}$, 0.8

## 5a Adding Decimal Fractions

**Activity A**

**Copy these additions in your exercise book. The first one has been done for you.**

**1.** 13.1 + 3.4 = 16.5

**2.** 14.3 + 2.3 = ____

**3.** 15.0 + 4.8 = ____

**4.** 22.2 + 5.9 = ____

**5.** 31.4 + 7.8 = ____

**6.** 15.7 + 3.6 = ____

**7.** 14.6 + 3.5 = ____

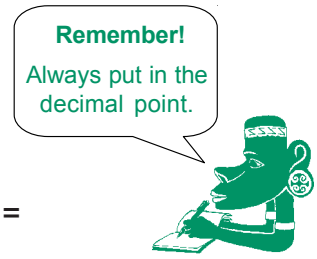
**8.** 41.5 + 6.8 = ____

**Set out these additions carefully and then work out the answers. Look at the example to see how to set them out.**

**Example**

13.4 + 15.5 =

```
  13.4
+ 15.5
  28.9
```




**9.** 15.6 + 13.7 =

**10.** 14.8 + 14.6 =

**11.** 13.5 + 11.9 =

**12** 12.8 + 24.8 =

**13.** 37.0 + 12.7 =

**14.** 55.5 + 33.3 =

**15.** 30.9 + 17.4 =

**16.** 17.9 + 29.8 =

**Activity B**

**Set out these additions carefully. Work out the answers in your exercise book.**

**1.** 13.6 + 14.7 + 21.3 =

**2.** 12.6 + 17.5 + 10.5 =

**3.** 15.1 + 14.0 + 18.9 =

**4.** 11. 4 + 16.2 + 14.7 =

**5.** 16.8 + 26.6 + 13.9 =

**6.** 73.8 + 88.5 =

**7.** 84.8 + 97.6 =

**8.** 59.4 + 60.8 =

**9.** 74.7 + 38.9 =

**10.** 90.8 + 79.7 =

**11.** Find the total of 130.6 and 147.7

**12.** How many is 143.8 and 29.9 altogether?

**13.** What is the sum of 3, 9.4, 3.8, 29.6 and 57.8?

**14.** Add 153.2 to 878.9.

**15.** Which is larger the sum of 19.9 and 18.7 or 23.6 and 11.7?

**Activity C**

**Copy the table and work out the answers. Then shade all the squares which contain a whole number.**

| + | 12.5 | 13.6 | 11.4 | 10.3 |
|---|---|---|---|---|
| 34.4 | | | | |
| 19.7 | | | | |
| 23.6 | | | | |
| 21.5 | | | | |

| + | 42.5 | 23.6 | 16.4 | 14.2 |
|---|---|---|---|---|
| 54.4 | | | | |
| 29.7 | | | | |
| 26.6 | | | | |
| 71.5 | | | | |

## 5b Subtracting Decimal Fractions

**Activity A**

**Copy and complete these subtractions in your exercise book.**

**1.** 456.5 − 314.8 = _____

**2.** 216.4 − 103.1 = _____

**3.** 247.8 − 112.5 = _____

**4.** 255.6 − 121.3 = _____

**5.** 397.9 − 144.8 = _____

**6.** 441.7 − 230.6 = _____

**7.** 344.3 − 132.1 = _____

**8.** 876.6 − 765.5 = _____

**Set out the following sums in the same way. Carefully calculate the answers.**

**9.** 275.4 - 155.3 =

**10.** 386.6 - 155.4

**11.** 459.7 - 246.6 =

**12.** 378.9 - 145.7 =


**Activity B**

**Set these out and complete them in your exercise book.**

**1.** Take away 321.0 from 457.5

**2.** What is the difference between 55.7 and 76.5?

**3.** 253.9 minus 14.7

**4.** 231.7 take away 186.7

**5.** What is the difference between 108.5 and 217.6?

**6.** Subtract 200.9 from 307.2

**7.** Which is smaller

321.8 - 127.9 or 492.6 - 236.3

**8.**
$$\begin{array}{r} 136.4 \\ -\,118.\square \\ \hline 17.7 \end{array}$$

**9.**
$$\begin{array}{r} 25\square.3 \\ -\,178.9 \\ \hline 80.4 \end{array}$$

**10.**
$$\begin{array}{r} 364.\square \\ -\,177.5 \\ \hline 186.7 \end{array}$$

# Unit 4

**Activity C**

**Find the missing digits.**

**1.**
$$\begin{array}{r} 1\square.2 \\ -\ 9.\square \\ \hline 7.4 \\ \hline \end{array}$$

**2.**
$$\begin{array}{r} 2\square 3.\square \\ -\ \square 7.2 \\ \hline 1\,6\,5.8 \\ \hline \end{array}$$

**3.**
$$\begin{array}{r} 16\square.\square \\ -\ \square 6.8 \\ \hline 87.7 \\ \hline \end{array}$$

**4.**
$$\begin{array}{r} 1\square\square.\square \\ -\ 69.7 \\ \hline 31.3 \\ \hline \end{array}$$

**5.**
$$\begin{array}{r} \square 2\square.4 \\ -\ \square 4.\square \\ \hline 129.4 \\ \hline \end{array}$$

**6.**
$$\begin{array}{r} 32.\square \\ -\ 1\square 8.3 \\ \hline 113.7 \\ \hline \end{array}$$

**Work through these calculations. Take care! Some are subtractions and some are additions!**

**7.** What is the sum of 79.3 and 65.2?

**8.** Find the difference between 63.2 and 84.7 .

**9.** 92.0 minus 37.6

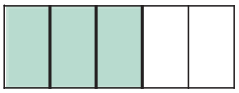
**10.** Find the total of 19.3 and 143.7 .

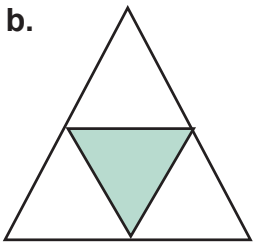
**11.** How many is 312.3 and 177.8 altogether?

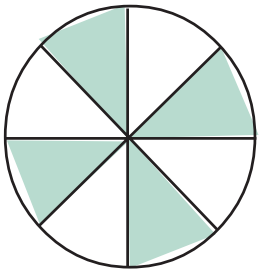
**12.** Take 49.6 away from 51.9

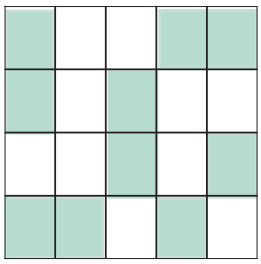
# Check Up Page

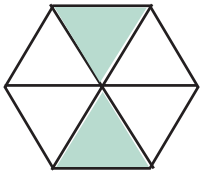
**1. What fraction has been shaded in the figures below?**

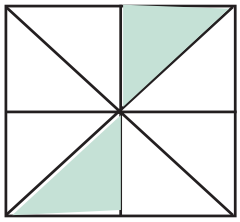
**a.** 

**b.** 

**c.** 

**d.** 

**e.** 

**f.** 

**2. Write these fractions as decimals.**

**a.** $\frac{3}{10} =$ **b.** $\frac{2}{10} =$ **c.** $\frac{9}{10} =$ **d.** $\frac{7}{10} =$ **e.** $\frac{5}{10} =$ **f.** $\frac{6}{10} =$

**g.** $\frac{8}{10} =$ **h.** $\frac{1}{5} =$ **i.** $2\frac{1}{2} =$ **j.** $4\frac{1}{5} =$ **k.** $3\frac{3}{10} =$ **l.** $6\frac{4}{5} =$

**3. Find the missing numerators for each of the fractions below:**

**a.** $\frac{2}{3} = \frac{\quad}{9}$ **b.** $\frac{3}{5} = \frac{\quad}{10}$ **c.** $\frac{1}{3} = \frac{\quad}{6}$ **d.** $\frac{1}{2} = \frac{\quad}{8}$

**e.** $\frac{1}{4} = \frac{\quad}{16}$ **f.** $\frac{1}{5} = \frac{\quad}{10}$ **g.** $\frac{3}{9} = \frac{\quad}{3}$ **h.** $\frac{4}{6} = \frac{\quad}{3}$

# Unit 4

**4. Change these mixed fractions to improper fractions. The first one has been done for you.**

**a.** $2\frac{1}{3} = \frac{7}{3}$ **b.** $3\frac{2}{10} =$ **c.** $1\frac{3}{8} =$ **d.** $5\frac{3}{4} =$

**e.** $2\frac{2}{7} =$ **f.** $4\frac{3}{4} =$ **g.** $3\frac{1}{5} =$ **h.** $2\frac{1}{4} =$

**i.** $1\frac{3}{4} =$ **j.** $5\frac{1}{2} =$

**5. Change these fractions into mixed fractions:**

**a.** $\frac{8}{4}$ **b.** $\frac{12}{4}$ **c.** $\frac{7}{3}$ **d.** $\frac{8}{5}$ **e.** $\frac{3}{2}$

**6. Calculate the answers. Write your answers in their simplest form.**

**a.** $1\frac{1}{3} + 1\frac{1}{3} =$ **b.** $3\frac{1}{6} + 2\frac{4}{6} =$ **c.** $4\frac{2}{9} + 2\frac{7}{9} =$ **d.** $2\frac{3}{8} + 1\frac{2}{8} =$

**e.** $3\frac{5}{6} - 3\frac{4}{6} =$ **f.** $5\frac{1}{7} - 3\frac{4}{7} =$ **g.** $10\frac{3}{5} - 2\frac{4}{5} =$

**7. Copy these two tables of numbers. Draw lines to join pairs of equivalent fraction. One has been done for you.**

| | |
|---|---|
| $\frac{9}{10}$ | 0.1 |
| $\frac{3}{5}$ | $\frac{4}{10}$ |
| $\frac{1}{10}$ | 0.6 |
| 2.5 | 0.9 |
| 0.4 | $2\frac{1}{2}$ |

| | |
|---|---|
| $\frac{3}{10}$ | 0.7 |
| $\frac{1}{5}$ | $\frac{1}{2}$ |
| $\frac{7}{10}$ | 0.3 |
| 5.5 | 0.2 |
| 0.5 | $5\frac{1}{2}$ |

**8. Write these decimal fractions in order. Begin with the largest.**

**a.** 0.4, 0.3, 0.8, 0.5 **b.** 1.4, 1.7, 0.9, 0.6 **c.** 1.0, 0.8, 1.7, 1.8

**9. Set out these sums and calculate the answers.**

**a.** 31.8 - 20.6 = **b.** 37.2 - 16.5 = **c.** 21.6 + 63.8 =

**d.** 124.8 - 79.3 = **e.** 159.6 + 47.7 =

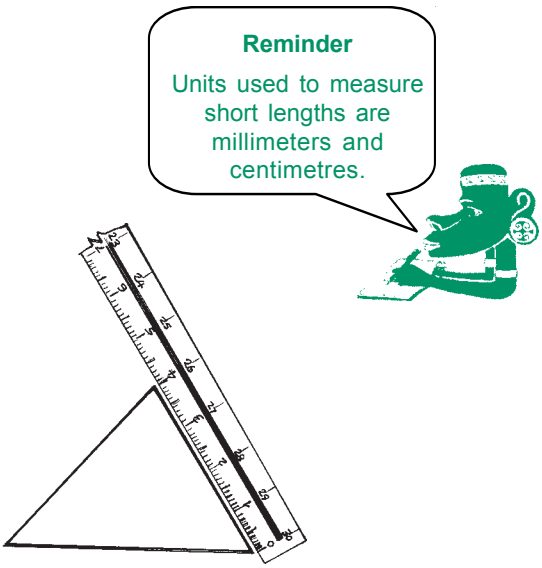
**10. Calculate these fraction subtractions.**

**a.** $10\frac{2}{9} - 4\frac{7}{9}$ **b.** $13\frac{1}{7} - 5\frac{3}{7}$ **c.** $12\frac{4}{10} - 8\frac{8}{10}$ **d.** $43\frac{4}{9} - 29\frac{8}{9}$

**e.** $3\frac{7}{12} - 2\frac{9}{12}$ **f.** $23\frac{1}{4} - 6\frac{3}{4}$ **g.** $5\frac{1}{6} - 1\frac{5}{6}$ **h.** $12\frac{4}{7} - 3\frac{6}{7}$

# Unit 5

## 1a Using a Ruler




**Rulers are used to measure short lengths. The numbers marked on the ruler are centimetres.**

**10 millimetres (mm) = 1 centimetre.**



**Activity A**

**Use your ruler to measure the following objects. Use the appropriate unit of measurement for each object.**

**1.** Length of your exercise book
**2.** Width of your exercise book
**3.** Length of your desk
**4.** Width of your desk
**5.** Height of your classroom door
**6.** Width of the door
**7.** Length of the classroom
**8.** Width of the classroom

**Activity B**

**Use your ruler to measure the following lines. Give your answer in millimetres and centimetres.**

**1.** _____ **2.** _____ **3.** _____

**4.** _____ **5.** _____

**Use your ruler to draw lines of the following length. Write the measurements next to each line you draw. Use cm for centimetres and mm for millimetres.**

**6.** 10 centimetres **7.** 20 millimetres **8.** 8 centimetres

**9.** 4 centimetres **10.** 50 millimetres **11.** 3 centimetres **12.** $2\frac{1}{2}$ centimetres

# 1b Units of Measurement

**Activity A**

**Copy this table into your exercise book. Which unit of measurement would you use to measure each one? Write the short form of each unit, mm, cm, m, or km.**

| | | Units |
|---|---|---|
| **1.** | distance from Solomon Islands to Vanuatu | |
| **2.** | thickness of your exercise book | |
| **3.** | length of fencing needed for your garden | |
| **4.** | height of a coconut tree | |
| **5.** | your waist size | |

| | | Units |
|---|---|---|
| **6.** | your brother's height | |
| **7.** | distance all around your island | |
| **8.** | distance from your school to your village | |
| **9.** | thickness of a 20c coin | |
| **10.** | length of your house | |

**Activity B**

**Work out the correct unit of measurement for each space. Write out the sentences. Underline the unit you have put in.**

**1.** My reading book is 27 _____ long and 16 _____ wide.

**2.** My classroom is 9 _____ long and 8 _____ wide. The windows have louvres in them. There are 12 louvres in each window. Each louvres is 60 _____ long and 15 _____ wide. The glass in the louvres is 5 ____ thick.

**3.** In the school holidays I went to visit my grandmother on another island. The island is 3 ____ away from my home. We travelled by a very long canoe. My father told me it was 12 ___ long.

**Activity C**

**Look at the table. Some of the units of measurement used are not the best ones to choose even though all the measurements are correct. Change any units you think are not appropriate. The first one has been done for you.**

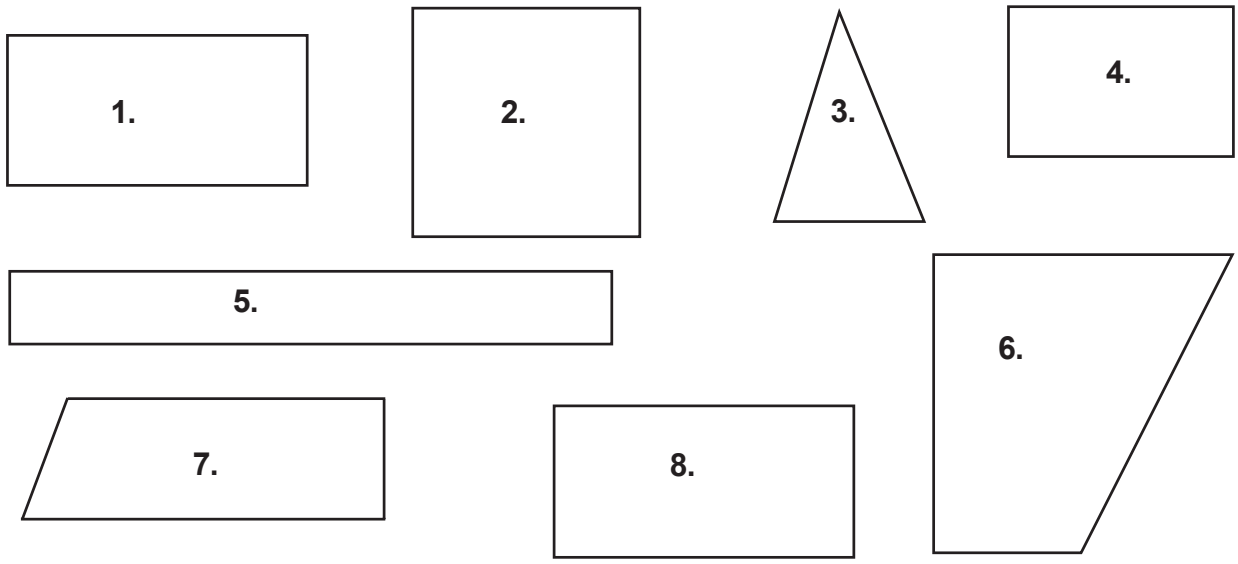
| | | Units | Your Idea |
|---|---|---|---|
| **1.** | distance from the river | 2,000 m | **2 km** |
| **2.** | length of my ruler | 300 mm | |
| **3.** | width of my chicken run | 450 cm | |
| **4.** | distance around my classroom | 1,800 cm | |
| **5.** | how far I walk to school | 500,000 mm | |

# Unit 5

## 2a Measuring in Centimetres and Metres

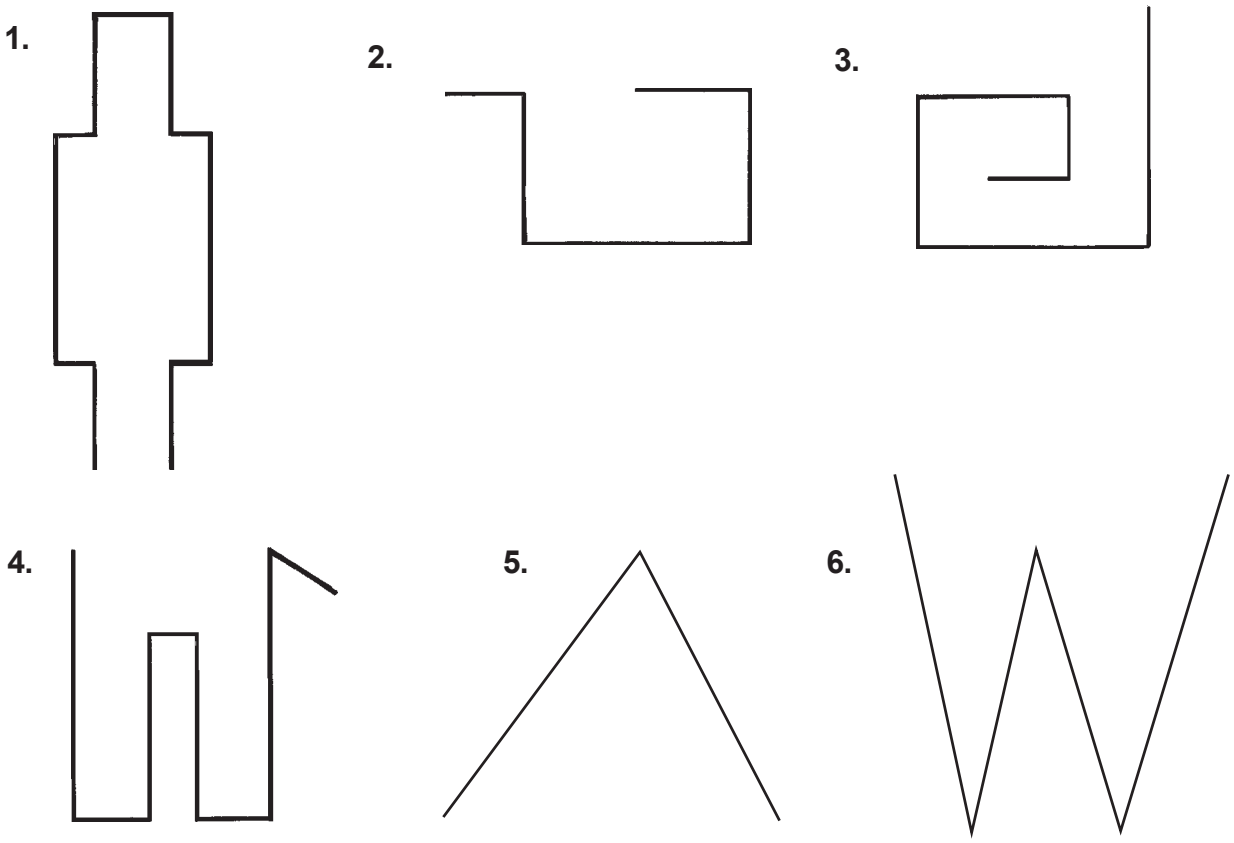
**Activity A**

**Use your ruler to measure and draw these shapes in your exercise book.**




**Activity B**

**How can the length of each line be measured? Find a way to measure these lines. Write your measurements in your exercise book.**



**Activity C**

**Use your ruler, metre stick or metre strips. Prepare a table for the results.**

How far can we jump?

| name | distance jumped |
|---|---|
| Rose | |
| Peter | |
| Leo | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Let each person have 3 jumps. Measure each jump carefully. Record the longest jump in the table. When you have completed the task, compare the results. Write a few sentences about the results using words such as: longest, furthest, shortest, difference between, more than, less than.


## 2b Metric Units of Measurement

**Activity A**

**Copy and complete these tables in your exercise book.**

| | in metres | in centimetres |
|---|---|---|
| **1.** | 1 metre | 100 centimetres |
| **2.** | _____ | 200 centimetres |
| **3.** | 4 metres | _____ |
| **4.** | _____ | 300 centimetres |

| | in metres | in centimetres |
|---|---|---|
| **5.** | _____ | 150 centimetres |
| **6.** | 3.5 metres | _____ |
| **7.** | $2\frac{1}{2}$ metres | _____ |
| **8.** | _____ | 650 centimetres |

**Remember!**

To change centimetres to metres multiply by 100.
To change metres to kilometres multiply by 1,000.

**Activity B**

| | cm | m | | mm | cm | | m | km |
|---|---|---|---|---|---|---|---|---|
| **1.** | 500 | | **5.** | 150 | | **9.** | 2,000 | |
| **2.** | 350 | | **6.** | 270 | | **10.** | 3,500 | |
| **3.** | 700 | | **7.** | 190 | | **11.** | 6,000 | |
| **4.** | 850 | | **8.** | 350 | | **12.** | 9,500 | |

# Unit 5

**Activity C**

**Can you fill the spaces?**

**1.** 2,159 cm = _____ m _____ cm

**2.** 3,750 cm = _____ m _____ cm

**3.** 3,750 mm = _____ m _____ cm

**4.** 14,225 m = _____ km _____ m

**5.** 150,693 m = _____ km _____ m

**6.** 236,100 m = _____ km _____ m

**7.** _____ m = 2 km 500 m

**8.** _____ cm = 3 m 27 cm

**9.** _____ cm = 22 m 50 cm

**10.** _____ mm = 15 cm 9 mm

**11.** 2 m 23 cm 50 mm = _____ mm

**12.** 1 km 500 m = _____ cm

## 3a Writing Lengths as Decimals

**Reminder**

10 millimetres (mm) = 1 centimetre (cm)
100 centimetres (cm) = 1 metre (m)
1000 metres (m) = 1 kilometre (km)

**Activity A**

**Copy and complete this activity in your exercise book. The first example has been done for you.**

**1.** 20 mm = 2 cm

**2.** ☐ cm = 2 m

**3.** ☐ cm = 50 mm

**4.** ☐ m = 400 cm

**5.** ☐ cm = $\frac{1}{2}$ m

**6.** ☐ mm = $\frac{1}{2}$ m

**7.** ☐ m = $1\frac{1}{2}$ km

**8.** ☐ km = 2,500 m

**Copy the tables and complete them.**

| | centimetres | millimeters |
|---|---|---|
| **9.** | 50 | 500 |
| **10.** | 4 | _____ |
| **11.** | _____ | 250 |
| **12.** | _____ | 450 |

| | metres | centimetres |
|---|---|---|
| **13.** | $1\frac{1}{2}$ | 150 |
| **14.** | 4 | _____ |
| **15.** | _____ | 250 |
| **16.** | _____ | 750 |

| | kilometres | metres |
|---|---|---|
| **17.** | 1 | 1,000 |
| **18.** | 8 | _____ |
| **19.** | _____ | 2,000 |
| **20.** | _____ | 9,500 |


## Activity B

**Write these lengths using decimals.**

**1.** 13 cm 9 mm = 13.9 cm
**2.** 31 cm 5 mm =
**3.** 95 cm 5 mm =
**4.** 86 cm 1 mm =
**5.** 14 m 50 cm =
**6.** 3 m 50 cm =
**7.** 55 m 50 cm =
**8.** 100 m 50 cm =
**9.** 4 km 5 00m =
**10.** 18 km 500 m =
**11.** 25 km 500 m =
**12.** 200 km 500 m =
**13.** 5 km 500 m =
**14.** 218 km 500 m =
**15.** 215 km 500 m =
**16.** 22 km 500 m =

## Activity C

**Calculate the following and write your answers in your exercise book.**

**1.** A group of runners competing in the 800 metres event covered 0.5 of the distance in 1 minute 45 seconds. How many metres was left to run?

**2.** The athletes ran $\frac{1}{4}$ of a 2 km event how far do the athletes still have to run?

**3.** What is $\frac{1}{2}$ of 5 km?

**4.** I want to buy $10\frac{1}{2}$ metres of material to make some curtains. The shop only has 7 m 70 cm of material, how much more do I need?

**5.** Write **>, <,** or **=** in each space.

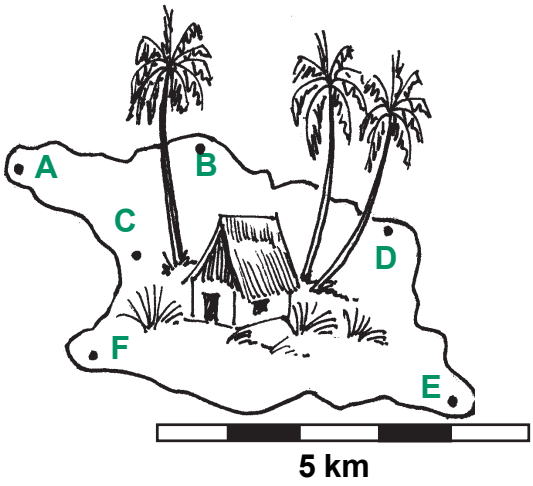

**a.** $\frac{1}{2}$ m ☐ = 0.5 m
**b.** 2.5 m ☐ $2\frac{3}{4}$ m
**c.** 0.25 m ☐ $\frac{1}{8}$ m
**d.** $3\frac{1}{2}$ m ☐ 3.20 m
**e.** $\frac{2}{5}$ m ☐ 0.5 m
**f.** $2\frac{1}{2}$ m ☐ 2.5 m
**g.** $\frac{3}{5}$ m ☐ 0.5 m
**h.** 75 cm ☐ $\frac{3}{4}$ m

# Unit 5

## 4b Scales

**Activity A**

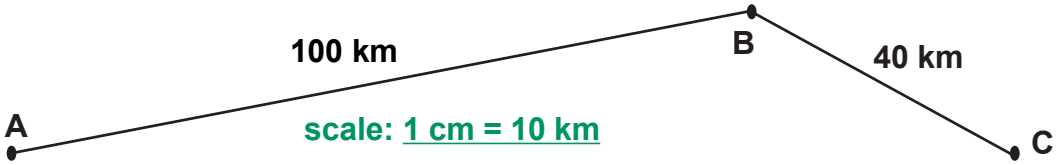
**Use the scale at the bottom of the picture to find the distance from:**

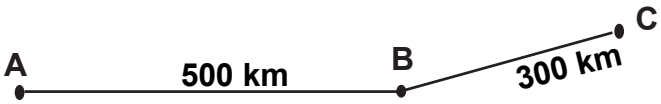


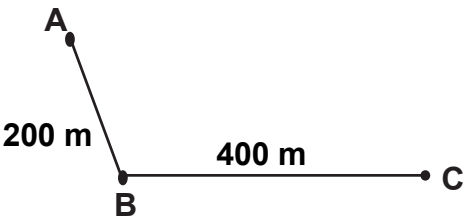

1. **A** to **B** _____
2. **C** to **F** _____
3. **C** to **D** _____
4. **D** to **E** _____
5. **E** to **F** _____

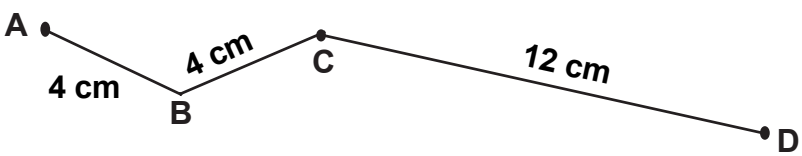
**Activity B**

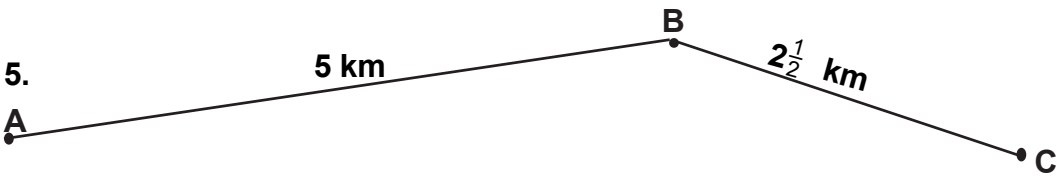
**Find the scale used for each of the distances below.**
**The first one has been done for you.**

1. 


2. 


3. 

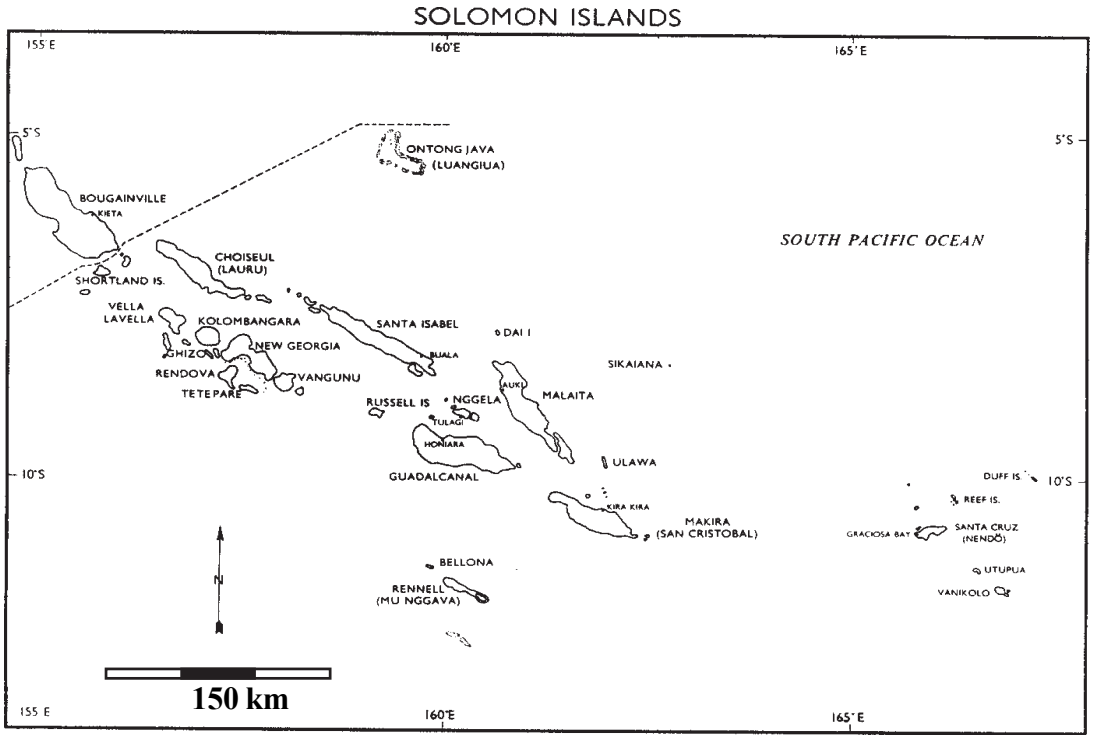

4. 


5. 


6. 

**Activity C**

**Look at the map of Solomon Islands. Answer the questions below.**



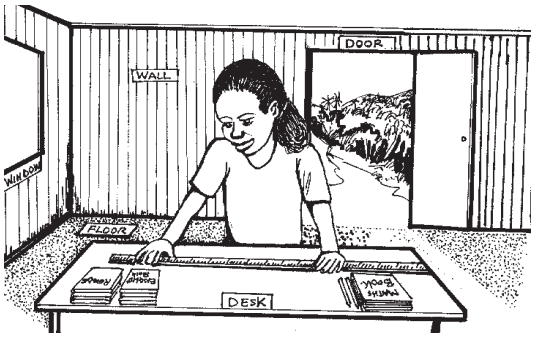

1. What does 1 cm on the map represent?
2. What is the distance from Honiara to Auki?
3. Approximately how far is Makira from the Shortland Islands?
4. How close is Malaita to Santa Isabel?
5. Approximately how close is Ontong Java to Rennell?
6. Approximately how close is Choiseul to Guadalcanal?

## 5b Practical Measuring Tasks

**Activity A**

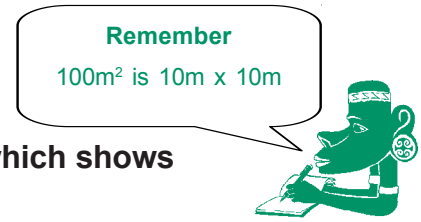
**Measure and draw the following in your exercise book using a scale. Decide on a sensible scale to use and mark it on your plan. Write a title for each plan too.**

**a.** The surface of your desk
**b.** The door of your room
**c.** Your classroom floor



# Unit 5

## Activity B




1. **Choose an area near your school. Sketch a plan which shows an area of about 100 $m^{2.}$**

   **What is in your chosen area? Mark on the approximate position of any buildings, paths or roads. Mark any gardens, streams or trees.**

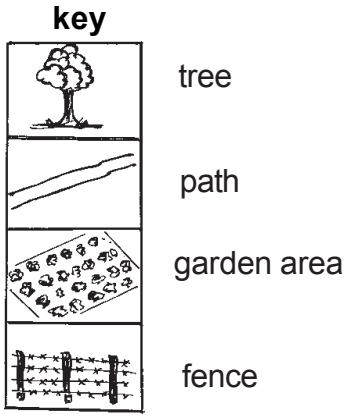
   **Draw a key to go with your plan. Here is an example of a key.**

   **Make sure your plan has a scale.**

   **A scale you could use would be 1cm = 5 cm, but remember, this is a sketch not an accurate scale drawing.**

   **Choose a scale that is right for the size of your piece of paper.**

   **Give your plan a title.**




**If you have coloured pencils you could colour your plan and your key.**

## Activity C

**Draw an accurate scale diagram of the school compound. Include the buildings paths, sports field and so on.**

**Choose your scale correctly. Measure the compound using a meter ruler, a builders tape or a trundle wheel. Make your plan accurate.**

**Remember to include a title, key and scale on the final drawing of your plan.**

# Check Up Page

**1. Which unit, or units of measurement would be best to use to measure each of the following?**

**a.** the length of a field

**b.** the length of your thumb

**c.** the distance from Solomon Islands to Vanuatu

**d.** the width of a nail

**e.** your waist measurement

**f.** your height

**g.** height of a coconut tree

**h.** the circumference of a seed

**2. a.** If a piece of material is 2 m long and I cut off 55 cm how much is left?

**b.** My brother is 25 cm taller than me. If I am 99 cm tall how tall is my brother?

**c.** I collect 20 shells. I thread them all string. If each one is 5 mm long how long is my string of shells in centimetres?

**d.** If Tom walks 500 m to his garden everyday how many kilometres will he walk in 5 days? Remember he must walk there and back each day.

**3. Fill in the spaces.**

**a.** 2.5 m = _____ m

**b.** $3\frac{1}{2}$ km = _____ km

**c.** 8.9 cm = _____ mm

**d.** 5 m 50 cm = _____ m

**e.** $\frac{1}{2}$ m = _____ cm

**4. Study the map and the scale and answer the following questions:**

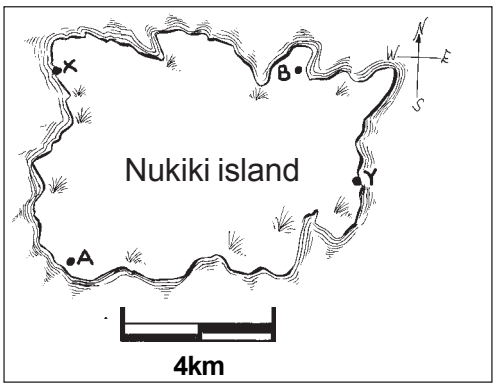
**a.** What does 1 cm on the map represent?

**b.** What is the actual distance between village A and village B?

**c.** How wide is the island at its widest part? (X,Y)

**d.** Sketch the map and draw village C 6 km north of village A.

**e.** Add village D 1 km south of village B




**5.** Draw a plan of the cover of your Pupil's Resource Book. Remember to put a scale on your plan.

# Unit 6

## 1a Multiplication Games and Puzzles

**Activity A**

**Race Against the Clock.**

**There are 3 sets of 10. If you have a clock in your classroom, time how long you take to get all 10 answers correct. Write down only the answer. If you can do 10 in 30 seconds you have learnt your tables well.**

| Set 1 | Set 2 | Set 3 |
|---|---|---|
| 1. 3 x 4 = | 1. 4 x 4 = | 1. 7 x 2 = |
| 2. 2 x 6 = | 2. 4 x 7 = | 2. 7 x 7 = |
| 3. 3 x 7 = | 3. 6 x 7 = | 3. 8 x 8 = |
| 4. 2 x 9 = | 4. 4 x 8 = | 4. 8 x 0 = |
| 5. 2 x 5 = | 5. 6 x 4 = | 5. 7 x 6 = |
| 6. 3 x 3 = | 6. 6 x 6 = | 6. 7 x 4 = |
| 7. 3 x 6 = | 7. 6 x 2 = | 7. 8 x 3 = |
| 8. 2 x 10 = | 8. 4 x 9 = | 8. 8 x 6 = |
| 9. 3 x 8 = | 9. 4 x 10 = | 9. 8 x 9 = |
| 10. 3 x 9 = | 10. 4 x 5 = | 10. 7 x 9 = |

**Use Your Tables**

1. In Edward's classroom there are eight tables with four pupils sitting at each table. How many pupils are there in Edward's class?
2. Rose picked up 7 handful of nuts. If she had 4 nuts in her hand each time how many nuts did she pick up?
3. Mary bought 5 exercise books. Each exercise book cost $9. How much did she pay altogether?
4. If Mali saves 10 cents every week how much will he have saved in 10 weeks?

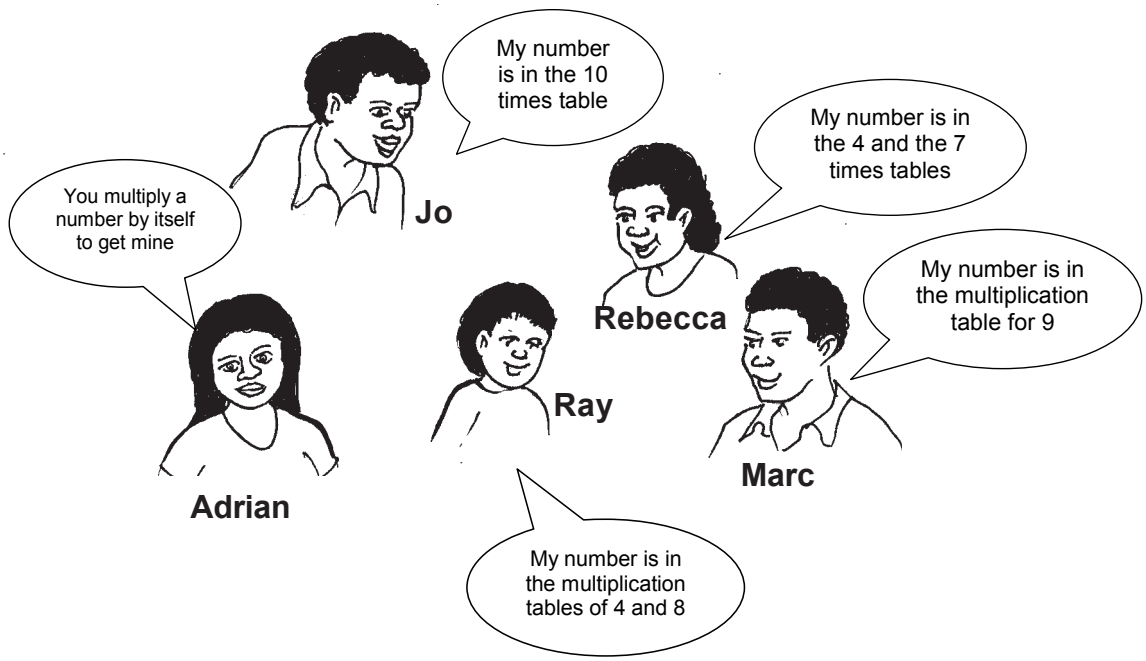
**Activity B**

**Using Multiplication Tables**

**1. Look at these numbers.**

**20, 21, 22, 23, 24, 25, 26, 27, 28, 29.**

**Can you work out which number each pupil is thinking about?**



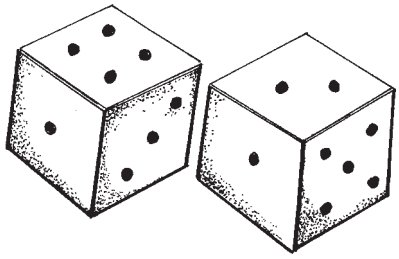

**Use your multiplication tables to work out the answers to these problems.**

**2.** 11 weeks. How many days?
**3.** 10 weeks. How many days?
**4.** 2 years. How many months?
**5.** 23 triangles. How many sides?
**6.** 22 squares. How many sides?
**7.** 20 squares. How many sides?
**8.** 10 heads. How many ears?
**9.** 44 bicycles. How many wheels?
**10.** 34 couples dancing. How many people?
**11.** 2 hours. How many minutes?
**12.** 5 minutes. How many seconds?
**13.** 43 men. How many ears?
**14.** 4 children. How many toes?
**15.** 32 women. How many arms?
**16.** 8 cats. How many legs?
**17.** 3 dollars. How many cents?
**18.** 6 spiders. How many legs?
**19.** 2 dozen eggs. How many?
**20.** 6 teams of 5-a-side. How many players?

# Unit 6

**Play the Game**

This is a game for 2 players.You need a dice.



**Player 1**

- Roll the dice twice.
- Multiply the two numbers together.

**Player 2**

- Roll the dice three times.
- Multiply two of the three numbers together to try to beat Player 1's total.

The player with the highest total gets a point.

- Do this five times then change places.

The player with the highest number of points, after all ten goes, wins.

**Activity C**

**Find a Home**

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|

**Find a home for every digit card. You can use each card only once.**

**1.** 4 x ☐ = 3 ☐

**2.** 5 x ☐ = ☐ ☐

**3.** 7 x 1☐ = ☐0

**4.** ☐ x ☐ = ☐8

**Fruit Stall**

**Multiply the number above each empty box by 9.**

**1.**

| 2 | 3 | 6 | 8 | 7 |
|---|---|---|---|---|
| | | | | |

**2.**

| 6 | 5 | 2 | 3 |
|---|---|---|---|
| | | | |

**3.**

| 9 | 5 | 7 | 3 | 1 | 9 | 9 | 6 | 3 |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

**4.**

| 6 | 3 | 2 | 8 | 7 |
|---|---|---|---|---|
| | | | | |

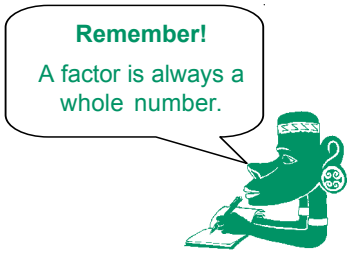
**5.**

| 8 | 10 | 1 | 7 | 4 | 3 |
|---|---|---|---|---|---|
| | | | | | |

**Now use the code to swap your answer for a letter.**
**Find the names of the fruits.**

| 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
|---|---|---|---|---|---|---|---|---|---|
| **a** | **m** | **e** | **g** | **i** | **l** | **n** | **o** | **p** | **r** |

# 1b Finding Factors




## Activity A

**What are the factors of 8?**

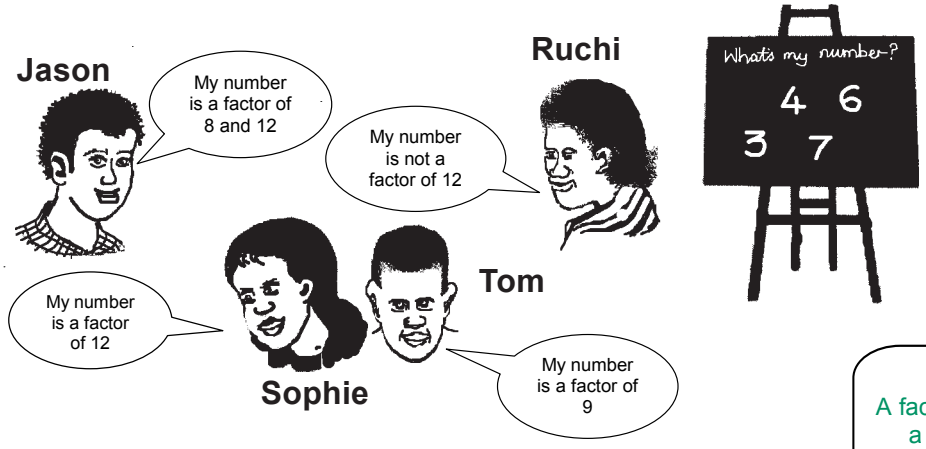
**Can you show these on your geo board? Draw them on dotted paper and write down the multiplication facts to go with them.**

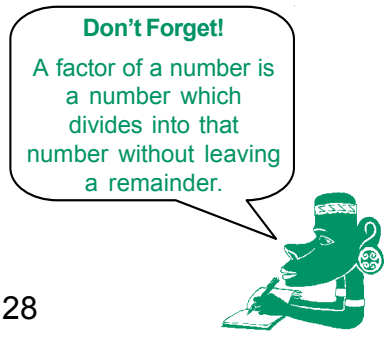
## Activity B

1. **Can you find the factors of 24, 32, 36 and 54. Use your multiplication square to help you.**

   **Write the multiplication fact beside each number.**

2. **These pupils have each chosen a number from the board. Which number has each pupil chosen?**




3. **True or False?**
   **Which of these are true and which are false?**

**a.** 5 is a factor of 25

**b.** 3 is a factor of 15

**c.** 4 is a factor of 9

**d.** 6 is a factor of 48

**e.** 7 is a factor of 28

**f.** 8 is a factor of 26

**g.** 9 is a factor of 28

**h.** 7 is a factor of 49

**i.** 9 is a factor of 63

**j.** 8 is a factor of 24

**k.** 10 is a factor of 90

**l.** 2 is a factor of 18

# Unit 6

## 1c Find the Multiples

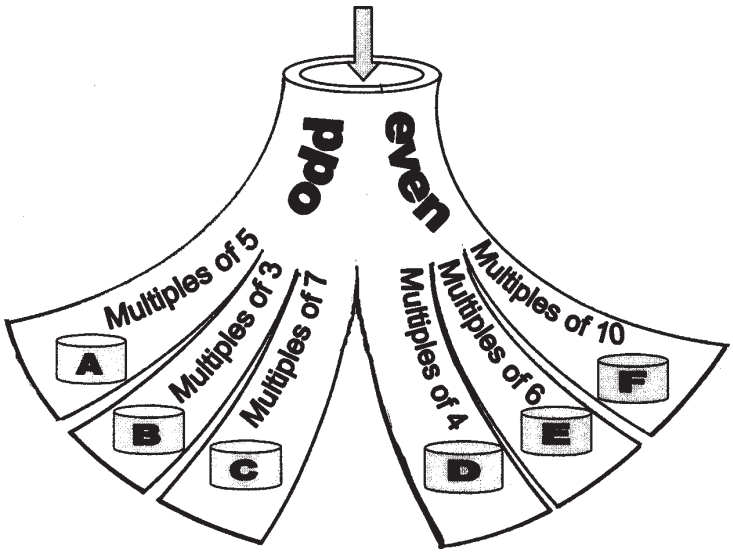
### Activity A

1. Which of these numbers are multiples of 3?
   **a.** 15 **b.** 19 **c.** 27 **d.** 12 **e.** 30
2. Which of these numbers are multiples of 2?
   **a.** 15 **b.** 19 **c.** 27 **d.** 12 **e.** 30
3. Which of these numbers are multiples of 4?
   **a.** 16 **b.** 19 **c.** 24 **d.** 12 **e.** 30
4. Which of these numbers are multiples of 5?
   **a.** 15 **b.** 19 **c.** 27 **d.** 45 **e.** 30
5. Which of these numbers are multiples of 6?
   **a.** 18 **b.** 19 **c.** 24 **d.** 12 **e.** 30

### Branching Out

**Look at these numbers one at a time. Put them into the branch. Which bucket do they finish up in? Some may fit in more than one bucket, so watch out!**

| | | | | | |
|---|---|---|---|---|---|
| 5 | 49 | 18 | 7 | 16 | 70 |
| 42 | 27 | 28 | 25 | 50 | 21 |



**Activity B**

**Find the Missing Multiples**

**The multiples of these numbers have been written in order but some are missing. Copy out the numbers and fill in the missing ones too.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Multiples of 3 | 9 | 12 | | 18 | 21 | | | 30 |
| Multiples of 5 | 10 | 15 | 20 | | | 35 | | 45 |
| Multiples of 7 | | 14 | 21 | | 35 | | 49 | |
| Multiples of 8 | 24 | 32 | | | | 64 | | 80 |
| Multiples of 9 | 9 | | | | 45 | | | 72 |

**Activity C**

**Copy this answer grid into your exercise book.**

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19.

**Now write the answers to questions 1 to 19 on your answer grid.**

Find the **greatest common factor** of:

**1.** 28 and 21
**2.** 8 and 12
**3.** 20 and 25
**4.** 12 and 18
**5.** 1 and 99
**6.** 100 and 150
**7.** 28, 14 and 56
**8.** 28, 36 and 40
**9.** 10, 20 and 30
**10.** 3, 6, 9 and 12

Find the **least common multiple** of:

**11.** 9 and 18
**12.** 1 and 11
**13.** 4 and 6
**14.** 1, 2 and 3
**15.** 10 and 12
**16.** 3, 6 and 8
**17.** 2, 3, 4 and 6
**18.** 4, 8 and 16
**19.** 2 and 7

**The numbers you have written are a coded message. Exchange the numbers for letters using the code below.**

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 2 | 5 | 3 | 16 | 7 | 8 | 26 | 60 | 9 | 13 | 12 | 18 |

| N | O | P | Q | R | S | T | U | V | W | X | Y | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 1 | 24 | 15 | 50 | 14 | 6 | 11 | 17 | 20 | 30 | 35 | 19 |

**What does your message say?**

# Unit 6

## 2a Multiplication Revision

**Activity A**

**Here are some multiplication sums. You could use your place value chart to work out the answers. Write both the sum and the answer in your exercise book.**

**1.** 24 x 2 =  **2.** 32 x 3 =  **3.** 44 x 2 =

**4.** 20 x 3 =  **5.** 12 x 4 =  **6.** 21 x 4 =

**7.** 13 x 3 = ____

**8.** 41 x 2 = ____

**9.** 22 x 2 = ____

**10.** 22 x 3 = ____

**11.** 34 x 2 = ____

**12.** 31 x 2 = ____

**13.** 33 x 3 = ____

**14.** 30 x 2 = ____

**Activity B**

**Find the missing numbers to complete these multiplication sums.**

**1.** □□ x 7 = 77

**2.** □□ x 3 = 96

**3.** □□ x 4 = 48

**4.** □□ x 3 = 99

**5.** 11 x □ = 66

**6.** □□ x □ = 30

**7.** □□ x □ = 50

**8.** □□ x 2 = 28

**9.** □□ x 3 = 93

**10.** □1 x 4 = 84

## 2b Multiplication Stories

**Activity A**

**Read these problems and work out the answers.**

**1.** If there are 25 bottles in one box how many are there in 3 boxes?

**2.** There are 7 days in a week. How many days are there in 20 weeks?

**3.** If there are 6 buns on a plate how many would there be on 11 plates?

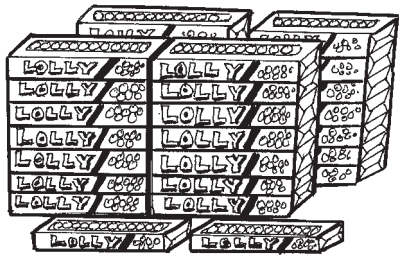
**4.** 4 families went to a party. If there were 15 people in each family how many people were there altogether?'

**5.** We had 7 canoes to take everyone to a wedding. If there were 14 people in each canoe how many people went to the wedding?

**Activity B**

**Read these multiplication stories and work out the answers.**

**1.** In a school there were 36 pupils in each class. If the school had 7 classrooms, what was the total number of pupils at the school?




**2.** Susan bought 30 packets of lollies. Each packet cost $3.00, how much did she spend altogether?

**3.** 26 guests were invited to a birthday party. Each of the guests was offered 1 soft drink on their arrival and another after their meal. How many soft drinks were served during the party?

**4.** Mario earns $50.60 per working day. How much does he earn after working for 8 days?

**5.** The 'Kai Bar' cafe takes an average of $570.60 each evening. How much can they expect to take during a week if they are open every evening?

## 3a Multiplication Problems

**Activity A**

**Complete these sums in your exercise book. Show all your working out.**

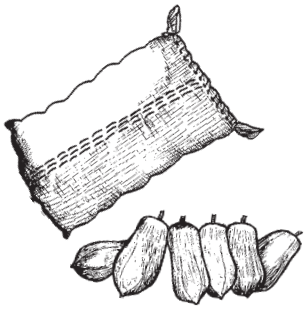
| | | | | |
|---|---|---|---|---|
| **1.** 73 x 15 | **2.** 45 x 12 | **3.** 58 x 14 | **4.** 63 x 23 | **5.** 24 x 30 |
| **6.** 28 x 15 | **7.** 89 x 13 | **8.** 65 x 22 | **9.** 80 x 16 | **10.** 76 x 23 |
| **11.** 89 x 25 | **12.** 55 x 16 | **13.** 69 x 14 | **14.** 33 x 17 | **15.** 59 x 11 |
| **16.** 58 x 20 | **17.** 39 x 40 | **18.** 60 x 18 | **19.** 57 x 70 | **20.** 46 x 25 |

# Unit 6

**Think!**
What is the question?
What information is given?
Decide on what to do.
Then do it!

## Activity B

**Answer the questions below in your exercise book. You will need to set out your working out carefully.**



If there are 18 pawpaws in a bag, how many pawpaws are in 24 bags?

$$\begin{array}{r} 18 \\ \times\ 24 \\ \hline 72 \\ +\ 360 \\ \hline 432 \end{array}$$

Answer = There are 432 paws in 24 bags.

1. In Michael's school there are twelve classes with twenty-four pupils in each class. How many pupils are there in the whole school?
2. Sara picked up 17 handfuls of shells. If she had 14 shells in her hand each time how many shells did she pick up?
3. Mr. Ben bought 15 books. Each exercise book cost $19. How much did he pay altogether?
4. If Tyson saves 60 cents every week how much will he have saved in a year?

## Activity C

**Copy and answer these problems in your exercise book.**

1. A woman planted 14 rows of cabbages near her house. In each row there are 16 plants. How many plants were there altogether?
2. There are 28 mangoes in a tray. Peter's fruit shop orders 45 trays. How many mangoes will they have to sell?
3. Sue sells 96 mangoes for 75 cents each. How much will she make?
4. There are 85 mandarins in a sack. If they sell for 70 cents each, how much will the whole sack cost?

5. Each basket holds 3 dozen lemons. If there are 47 baskets.
   - **a.** how many lemons are there altogether?
   - **b.** If a lemon cost 25 cents each what will be the total cost?

**6.** A bag of baking flour has a mass of 50 kg. What is the mass of 68 bags.

**7.** Bundles of cabbage at the market cost $8 for 2 bundles. How much will you pay for 10 bundles of cabbage?

**8.** A sack of copra weighs 28 kg. How much would 17 sacks weigh?

## 3b Multiplication Challenges

**Remember**

When we multiply two or more numbers together, the answer is called a **product**.

### Activity A

**Set out the following multiplication sums in your book and work out the answers.**

**1.** 30 x 36 = **2.** 69 x 47 = **3.** 56 x 36 = **4.** 387 x 16 =

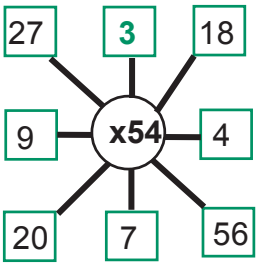
**5.** 276 x 22 = **6.** 517 x 24 = **7.** 134 x 42 = **8.** 507 x 70 =

**9.** 202 x 19 = **10.** 690 x 31 = **11.** 509 x 49 = **12.** 780 x 17 =

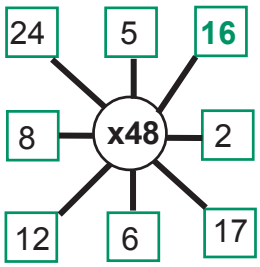
### Activity B

**Multiply the numbers around the wheel. Begin with the green number. Go round the wheel clockwise.**

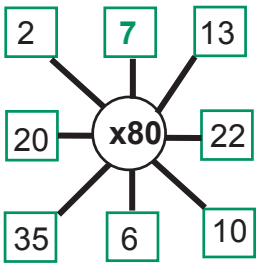
**1.**



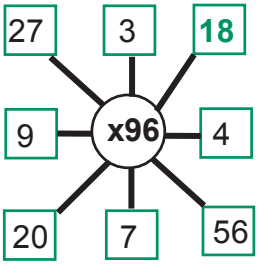

**2.**



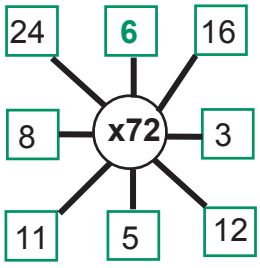

**3.**



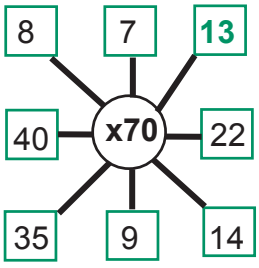

**4.**




**5.**




**6.**



# Unit 6

**Activity C**
**Brain Teaser**
**Use all these digits to fill in the spaces in the multiplication sum.**

| 3 | 4 | 5 | 9 | 0 |
|---|---|---|---|---|

| | | | |
|---|---|---|---|
| | | | |
| X | | | |
| | | | |
| | | | |

**a. What arrangement gives the smallest answer?**
**b. What is the answer?**
**c. What arrangement gives the biggest answer?**
**d. What is it?**

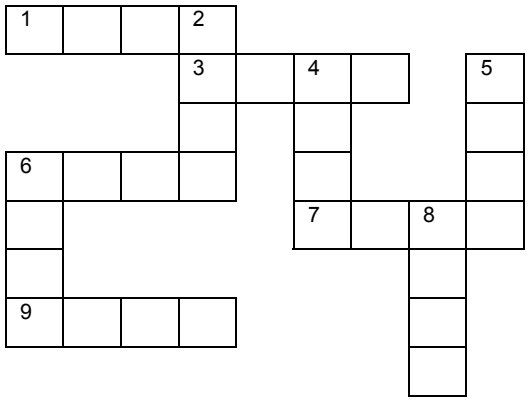
**Multiplication Puzzles.**
**Copy the grid into your exercise book. Work out the answers and fill in the puzzle.**

**Across**

**1.** 256 x 26
**3.** 126 x 34
**6.** 324 x 22
**7.** 344 x 24
**9.** 355 x 24

**Down**

**2.** 222 x 29
**4.** 456 x 18
**5.** 224 x 24
**6.** 392 x 19
**8.** 198 x 26




**Tip**

The numbers show you which square to start each answer. Some go **across** and some go **down**.

# 4a Multiplication Problems

**Solving Problems**

What is needed?
What is given?
What can I assume?
What needs to be done first?
What happens next?
How many steps?

**Activity A**

**Read these problems carefully.**

**Work them out in your exercise book. Set out all your working.**

**1.** There are 8 coconuts tied up in a bunch.
How many would there be in 14 bunches?

**2.** If 6 people can fit into one canoe how many people would 13 canoes carry?

**3.** If my mother bakes a cake it can be cut into 16 pieces. If she baked 3 cakes how many pieces of the same size would there be altogether?

**4.** What is the product of 15 and 14?

**5.** If Mathias walks 7 km to school and back every day how far would he walk in a week? Mathias goes to school every day except Saturday and Sunday.

**a.** How many players are there altogether?

**b.** If there were 9 teams of 7 players, how many players would there be?

**7. Football Puzzle**

How many studs are needed for 9 pairs of football boots if each boot needs 6 studs?

## Guess the Number

| A | C |
|---|---|
| I am an even number. | I am an odd number. |
| I am less than 20. | I am a multiple of 5 and 9. |
| I can be divided by 6 and 9. | I am less than 50. |
| What number am I? | What number am I? |
| **B** | **D** |
| I am an even number. | I am an odd number. |
| I am less than 10. | I am less than 20. |
| I can be divided by 2 and 3. | I am a multiple of 5. |
| What number am I? | What number am I? |

# Unit 6

**Activity B**

**1.** Look at the table below. It shows how many baskets of fruit were taken to market. Can you work out how many oranges, mangoes, pineapples and bananas were in total? Use the information in the table and work out the totals.
Show your working out in your exercise book.

| fruit | baskets | fruit in each basket | total |
|---|---|---|---|
| orange | 20 | 54 | |
| mango | 12 | 26 | |
| pineapple | 50 | 19 | |
| banana | 32 | 38 | |

**2.** A farm is planted out with fruit trees. Can you find out how many different fruit trees there are by working it out from the table below?

| fruit tree | rows | trees in each row | total |
|---|---|---|---|
| pawpaw | 41 | 28 | |
| mandarin | 35 | 16 | |
| avocado | 17 | 20 | |
| lemon | 22 | 22 | |

**3.** A restaurant uses 75 eggs a day. How many eggs are used in June?

**4.** Pens are packed 16 in a box. How many pens are there in 4 dozen boxes?

**5. Brain Teaser**

Make the algorithm which will make the largest answer using these four digits.

2 3 6 7

□□

x □□

_____

_____

**6. A Strange Pattern**

Write your age:
Multiply it by 7:
Multiply the answer by 11:
Then multiply by 13.
What do you notice?

Try this with other ages.

**Activity C**

**Read these problems and work out the answers.**


**1.** **a**. How much will it cost to transport 120 tonnes of copra if each truck holds 12 tonnes, there are 2 trucks available and the cost is $240 for the first trip and $180 for every trip after that?

**b**. The copra farmer thinks it would be cheaper if there were 5 trucks available. Is he right? Give a reason for your answer

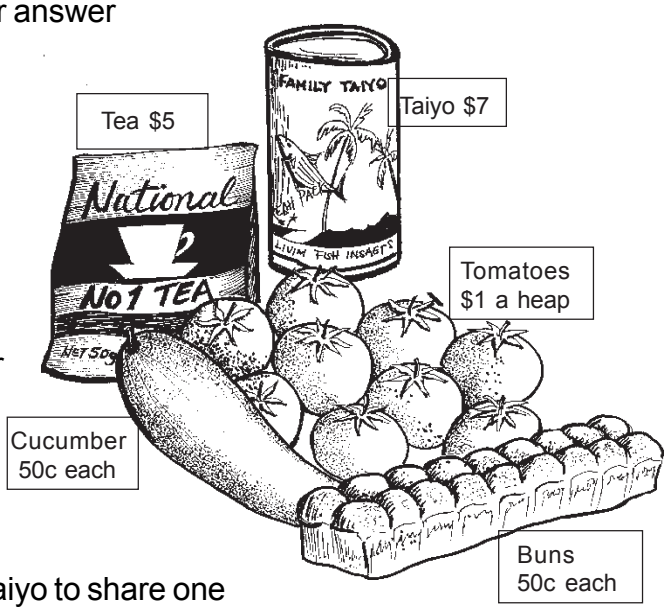
**2.** Pupils in class 6 each bought food for a class picnic. If there were 27 pupils in the class, how much did each pupil spend?

**a.** Jason bought two buns for everyone in the class.

**b.** Susan bought a cucumber for every person in the class.

**c.** Jemima bought 9 packets of tea and five heaps of tomatoes.

**d.** Billy bought enough tins of Taiyo to share one between three pupils.




**3.** Peter can walk 1 km in 12 minutes. He lives 7 km away from his school. Yesterday morning his friend met him at 8.05 am. His friend had a bicycle with him. He gave Peter a ride for some of the way. Peter walked the last 2 km.

How long would it take Peter to walk all the way from home to school?

**4.** Junior is a car mechanic. His wages are paid at a rate of $8 an hour. If he works a 7 hour day for 5 days a week, how much would he earn in

**a.** 1 week? **b.** a fortnight? **c.** 4 weeks? **d.** 52 weeks?

**5.** A truck has four tyres. Tyres cost $275 each.

How much would tyres cost for 5 trucks?

**6.** Rachel works in an office. She is paid at a rate of $7 an hour. She works 8 hours a day.

How much would she earn in a week if she works for 5 days every week?

# Unit 6

**Puzzle 1**

At the feast Simeon ate twice as many pieces of fruit as Patrick. Patrick ate 2 pieces fewer than Annie, and Annie ate 4 more than Jack. If Jack ate 3 pieces of fruit, how many pieces of fruit did Simeon eat?

**Puzzle 2**

Richard, Mark and Esther took turns to push a wheelbarrow in a sponsored walk to raise money for their church. Esther pushed it 2 km more than Mark, Mark pushed it 4 times as far as Richard and Richard pushed the wheelbarrow for 2 km.
How many kilometres did the wheelbarrow cover?

# Check Up Page

**Do this page without using multiplication squares.**

| | | | |
|---|---|---|---|
| **1.** 123 x 3 = | **2.** 32 x 2 = | **3.** 36 x 2 = | **4.** 145 x 3 = |
| **5.** 36 x 6 = | **6.** 300 x 4 = | **7.** 207 x 5 = | **8.** 39 x 3 = |
| **9.** 28 x 12 = | **10.** 32 x 18 = | **11.** 43 x 76 = | **12.** 50 x 35 = |
| **13.** 143 x 19 = | **14.** 204 x 26 = | **15.** 132 x 78 = | **16.** 238 x 83 = |

**17.** Our local team played 13 games of football this season. Usually about 440 people watch each game. Approximately how many people watched our team this season?

**18.** Stella can walk 1 km in 14 minutes. How long would it take her to walk 24 km?

**a.** Write your answer in minutes.

**b.** Write your answer in hours and minutes.

**19.** Bread comes from the bakery in large flat trays. Each tray has 18 loaves on it. How many loaves would there be in 30 trays?

**20.** If one sack of copra weighs 54 kg, how many kilograms do 123 sacks weigh?

**21.** A woman has planted 114 rows of cabbage near her house. In each row there are 16 plants. How many plants altogether?

# Unit 7

## 1a Division Revision

### Activity A

**Use stones or shells to help you work out the answers.**

**1.** 13 ÷ 5 =
**2.** 14 ÷ 3 =
**3.** 11 ÷ 3 =
**4.** 9 ÷ 4 =
**5.** 17 ÷ 2 =
**6.** 12 ÷ 5 =
**7.** 19 ÷ 3 =
**8.** 10 ÷ 4 =
**9.** 15 ÷ 2 =
**10.** 19 ÷ 5 =
**11.** 9 ÷ 5 =
**12.** 16 ÷ 5 =
**13.** 18 ÷ 4 =
**14.** 10 ÷ 3 =
**15.** 13 ÷ 2 =

**Copy these sums and work out the answers. Look carefully at the way they are set out.**

**16.** $5\overline{)19}$
**17.** $3\overline{)16}$
**18.** $4\overline{)14}$
**19.** $2\overline{)19}$
**20.** $3\overline{)19}$
**21.** $5\overline{)14}$
**22.** $3\overline{)13}$
**23.** $4\overline{)11}$
**24.** $4\overline{)14}$
**25.** $5\overline{)17}$

**Tip!**
Your multiplication tables will help you to divide!

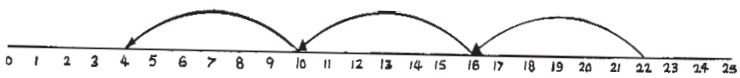
**Read these division sentences. Work out the answers and make sure you check your calculations. Some have remainders.**

**26.** Divide ten oranges among three pupils.
**27.** Share fourteen shells between five children.
**28.** How many groups of six can be made out of eighteen stones?
**29.** Share seventeen eggs between four baskets.
**30.** If Sara and Francis share twenty-five nuts, how many will each of them have?

### Activity B

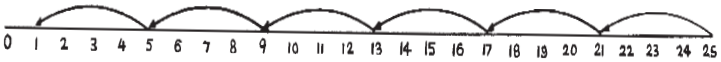
**Look at these number lines. Copy and complete the number sentences.**

**1. a.**




22 ÷ 6 = ☐ remainder ☐

**b.**




25 ÷ 4 = ☐ remainder ☐

**Use a number line for these**

**c.** 13 ÷ 4 =
**d.** 15 ÷ 2 =
**e.** 32 ÷ 6 =
**f.** 18 ÷ 4 =
**g.** 20 ÷ 6 =
**h.** 21 ÷ 5 =
**i.** 28 ÷ 5 =
**j.** 27 ÷ 4 =

**Remember!**
When a number is divided by another, if there is anything left over this is called the **remainder.**

**2. Copy these numbers. Put a circle around those that have a remainder of 1 when divided by 2.**

3 6 8 9 12 11 15 18 17

**3. Copy down these numbers. Put a circle around those which have a remainder of 2 when divided by 5.**

7 13 12 17 20 22 23 37 41

**4. Write down all the numbers between 3 and 25. Divide all the numbers by 3.**

- Put a **ring** round the numbers with no remainder.
- Put a **square** round the numbers with a remainder of 1.
- Put a **triangle** round the numbers with a remainder of 2.

Look at the pattern. Explain what you see.

**Tip!**
When you divide think of the multiplication fact.

**Activity C**

**Solve the Problem**

**1.** How many 7 centimetre lengths of string can be cut from a piece of string which is 65 cm long? How much is left over?

**2.** If it costs $3 to buy a Solomon Star newspaper how many can I buy for $29? Will I have any money left over?

**3.** A teacher has a class of 27 pupils. She wants them in equal groups for an activity. Should she put them in groups of 3, 4, or 5?

**4.** A group of 76 scouts are going camping. The village women have prepared baskets of food for them to take. Each basket has enough in it to feed 6 scouts. How many baskets must they take?

**5.** A baker is putting buns into bags. He has made 58 buns. If each paper bag has 4 buns in it how many paper bags can he fill? Will he have any buns left over?

**6.** A group of 76 people are going to a wedding. They have to travel by canoe. If 8 people and the driver can go in the canoe each time how many canoe trips are needed?

# Unit 7

**7.** At a fundraising our class made $85.

**a.** If exercise books cost $7 how many could we buy?

**b.** If pencils are cost $2 each would we have enough money left over to buy any pencils? How many?

**Quick Practise**

| | | | | |
|---|---|---|---|---|
| **1.** 93 ÷ 8 = | **2.** 98 ÷ 9 = | **3.** 87 ÷ 7 = | **4.** 85 ÷ 6 = | **5.** 76 ÷ 3 = |
| **6.** 92 ÷ 6 = | **7.** 79 ÷ 4 = | **8.** 94 ÷ 7 = | **9.** 93 ÷ 8 = | **10.** 77 ÷ 5 = |

## 2a Multiplication and Division

**Activity A**

**Find the missing factors. Write the answers in your exercise book.**

**1.** $\square \times 9 = 72$ (8)

**2.** $\square \times 4 = 28$

**3.** $\square \times 7 = 42$

**4.** $\square \times 5 = 45$

**5.** $\square \times 6 = 36$

**6.** $\square \times 3 = 42$

**7.** $\square \times 8 = 48$

**8.** $\square \times 7 = 56$

**9.** $\square \times 6 = 72$

**10.** $\square \times 4 = 48$

**Think!**

What multiplication sums give an answer of 20?
2 x 10, 5 x 4 = 20.

**Activity B**

**Copy and answer these questions in your exercise book.**
**The first one has been done for you.**

**1.**
$$\begin{array}{r} 13 \\ 5\overline{)\,65} \\ -\,5 \\ \hline 15 \\ -\,15 \\ \hline \end{array}$$

**2.** $3\overline{)78}$

**3.** $4\overline{)56}$

**4.** $6\overline{)96}$

**5.** $8\overline{)96}$

**6.** $4\overline{)56}$

**7.** $7\overline{)91}$

**8.** $6\overline{)84}$

**9.** $3\overline{)51}$

**10.** $8\overline{)72}$

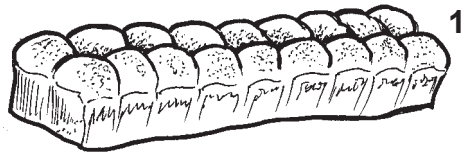
**11.** Catherine collected 72 shells. If she shared them among 9 friends how many shells would each one get?

**12.** Pita planted 2 rows of coconuts in his plantation. There were 48 coconuts altogether. How many coconuts in each row?

**13.** Sue bought 5 marbles for 95 cents. What did each marble cost?

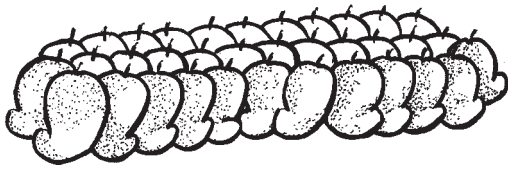
**Activity C**

**Answer these problems.**

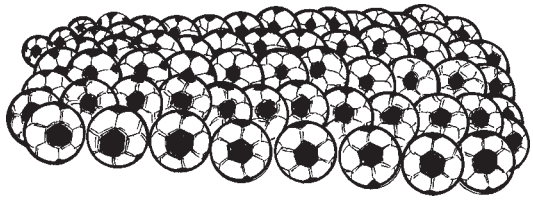


**1.** 6 children had enough money to buy 18 buns. When they share them out , how many will each child get?

**2.** 7 children at a party like mangoes. If there were 35 mangoes to share, how many does each child get?

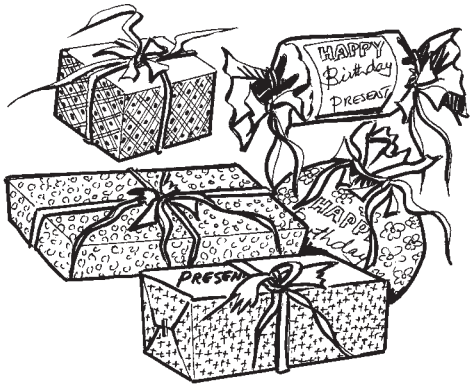


**3.** After the school sports day, the 64 balls being used were packed into boxes, 8 in a box. How many boxes were needed?



**4.** 18 lollies cost $6. How many lollies will you get for $1?

**5.** 9 pupils need $108 to buy a present for their teacher at the end of the school year. How much does each need to put in?



# Unit 7

## 2b Division Problems

### Activity A

**Copy and complete the following division problems in your exercise book.**

**1.** $2\overline{)214}$ **2.** $4\overline{)840}$ **3.** $6\overline{)606}$ **4.** $5\overline{)525}$ **5** $3\overline{)621}$

**6.** $7\overline{)749}$ **7.** $3\overline{)525}$ **8.** $4\overline{)808}$ **9.** $2\overline{)122}$ **10.** $3\overline{)927}$

### Activity B

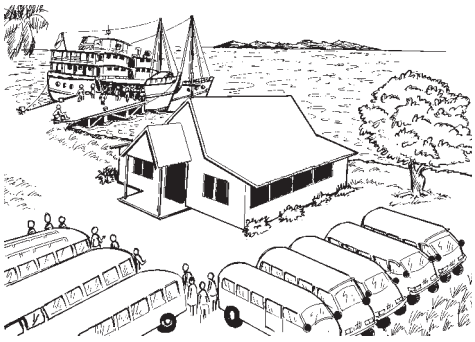
**Discuss these division stories with your partner. When you have decided how to set out the sums, set them out clearly in your exercise book and work out the answers on your own. Check your answers with your partner when you have finished.**

**1.** Joann has $360 dollars to buy presents for her family at Christmas. She wants to buy one for her Mum, one for her dad and one for her sister. How much can she spend on each person?

**2.** Five women spent a whole day collecting firewood. They made 125 bundles altogether. How many bundles did each woman make?

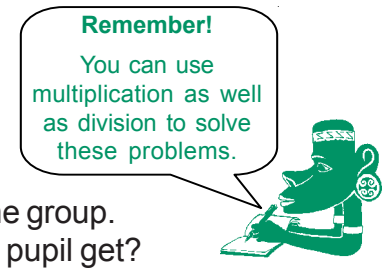
**3.** If 8 buses were used to transport 240 guests to a wedding, how many people travelled in each bus?

**4.** Two ships brought another 428 guests for the wedding. How may were in each ship?



### Activity C

**Study these division stories with your partner. Set out the division sums in your exercise book and calculate the answers.**




**1.** Kimo earned a $350 bonus on Friday and decided to share it fairly between his four children. How much did each child get? How much was left over?

**2.** The teacher shared the coloured pencils equally among the group. There were 9 pupils and 145 pencils. How many did each pupil get? Were there any left over?

**3.** The copra station hired 7 canoes to transport copra to Honiara. There were 458 sacks altogether, but when they were divided equally between the canoes some sacks could not fit in. How many went in each canoe and how many were left behind?

**4.** Taiyo tins are packed in boxes of 24. Work out how many tins were left over after the following number of tins had been packed each day.

a. Monday 125 tins

b. Tuesday 149 tins

c. Wednesday 290 tins

## 3a Division Practice

**Activity A**

**Copy and complete these questions in your exercise book.**
**The first one has been done for you as an example.**

**1.**
$$\begin{array}{r} 33 \\ 4\overline{)132} \\ 12 \\ \hline 12 \\ 12 \\ \hline 0 \end{array}$$

**2.** $6\overline{)318}$ **3.** $8\overline{)192}$ **4.** $7\overline{)882}$

**5.** $3\overline{)1869}$ **6.** $5\overline{)185}$ **7.** $9\overline{)963}$ **8.** $4\overline{)7632}$

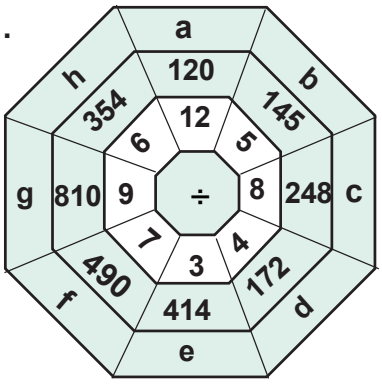
**9.** $6\overline{)828}$ **10.** $8\overline{)976}$ **11.** $7\overline{)875}$ **12.** $6\overline{)7350}$

**13.** $3\overline{)4560}$ **14.** $4\overline{)8240}$ **15.** $6\overline{)7260}$ **16.** $2\overline{)3426}$

**Activity B**

**Copy and complete the spinning wheel and the two tables.**

**1.**




**2.**

| ÷ | 125 | 130 | 135 |
|---|---|---|---|
| 5 | 25 | 26 | |
| 6 | | | |
| 7 | | | |

**3.**

| ÷ | 110 | 120 | 130 |
|---|---|---|---|
| 2 | 55 | 60 | |
| 5 | | | |
| 10 | | | |

**Talk about the patterns you can see in your answers with a partner.**

# Unit 7

**Activity C**

**Solve these problems. Set out your calculations clearly in your exercise book.**

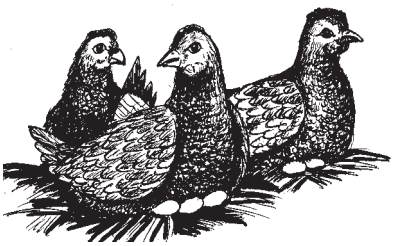
**1.** Alex planted 8 rows of vanilla plants. There were 976 vanilla plants in his green house. How many plants did he plant in each row?

**2.** Eight children went to the beach. They collected 2,560 shells. How many shells can each child have?

**3.** Four brothers made $8,960 from making and selling furniture. They shared out the profit equally. How much did each one make?

**4.** At a copra farm, the manager decided that the profits should be shared equally between the 8 workers. Study the table and work out how much money each worker received, each month. Copra is sold at $64 per sack.

| Month | January | February | March | April | May | June |
|---|---|---|---|---|---|---|
| **Number of sacks produced** | 12 | 34 | 21 | 48 | 61 | 8 |



**5.** Three sisters from Guadalcanal set up a poultry project with 621 chickens. Each chicken lays one egg each day. The eggs fetch $2 each when they are sold to a local buyer.

**a.** How many eggs can the sisters collect in a week?

**b.** How much will they make if they sell all their eggs in a week?

**c.** How much money will each sister make in a week once the profits are shared out?

**d.** If the sisters decide to split up the farm, how many chickens will each sister have?

## 4a Averages

**Reminder**

Add the numbers. Divide by how many numbers you have added to find the **average**.

### Activity A

**Find the average of each list of numbers.**

**1.** 3, 4, 5, 6, 7

**2.** 2, 3, 2, 3, 5

**3.** 6, 2, 2, 3, 2

**4.** 3, 3, 5, 5, 4

**5.** 1, 2, 7, 2

**6.** 2, 1, 3, 4, 1, 1,

**7.** 3, 4, 1, 4

**8.** 2, 3, 4, 3, 5, 2, 2,

**9.** 2, 8, 3, 7, 5

**10.** 5, 1, 3, 0, 2, 1, 2

**11.** 3, 0, 4, 0, 2, 3

**12.** 10, 7, 3, 0

**13.** Mary, Esther and Selwyn go out fishing. Mary catches 8 fish and Esther and Selwyn catch 5 fish each. When they get home they share out all the fish. How many will they each get?

**14.** My brother and I collect eggs from our chicken house. If I collect 12 and my brother collects 8 what is the average number each of us have collected?

### Activity B

**Find the average of each list of numbers.**

**1.** 8, 9, 8, 7, 8

**2.** 10, 6, 8, 9, 0, 3

**3.** 13, 5, 27

**4.** 3, 18, 17, 6

**5.** 12, 21, 4, 8, 3, 7, 15

**6.** 5, 6, 6, 11, 16, 2, 8, 9, 0

**7.** 22, 45, 83

**8.** 62, 27, 20, 35

**9.** 71, 41, 15, 0, 13

**10.** 17, 54, 22

**11.** 55, 12, 13, 24

**12.** 87, 33, 51, 29, 0

# Unit 7

**Activity C**

**Find the average of each of the following sets of numbers.**

**1.** 79, 87, 94, 58, 32

**2.** 832, 900, 923

**3.** 83, 103, 136, 94

**4.** $204, $219, $225, $260, $254, $290, $221

**Solve these problems. Write our calculations and your answers in your exercise book.**

**5.** During training, James ran the 100 metre race 5 times and recorded his time for each race as shown. What was his average time?

| | |
|---|---|
| Race 1 | 10 seconds |
| Race 2 | 13 seconds |
| Race 3 | 11 seconds |
| Race 4 | 10 seconds |
| Race 5 | 11 seconds |

**6.** The chart shows Maria's end of term test results for each subject.

| | |
|---|---|
| Maths | $\frac{16}{20}$ |
| English | $\frac{13}{20}$ |
| Science | $\frac{17}{20}$ |
| Community Studies | $\frac{11}{20}$ |
| Christian Education | $\frac{13}{20}$ |
| Agriculture | $\frac{18}{20}$ |
| Art and Craft | $\frac{10}{20}$ |

**a.** What was her average score overall?

**b.** What was her average score for her three best subjects?

**7.** The figures show how much money was taken in the local store each day for a week. Calculate the average daily takings.

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---|---|---|---|---|---|
| $280 | $195 | $295 | $240 | $218 | $305 | $0 |

# 5a Problem Solving with Averages

**Activity A**

**1.** Look at the papaw trees. What is the average number of fruit on the trees?

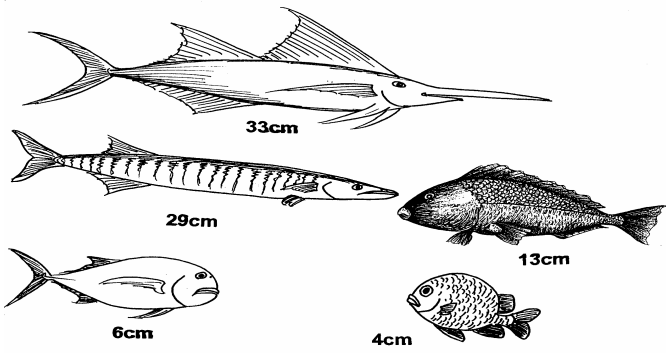
**2.** If my friends are 9, 11 and 7 years old what is their average age?

**3.** I go fishing on 5 days of the week. If I catch 5 fish on Monday, 4 on Tuesday and Friday, none on Wednesday, and 7 fish on Thursday what is the average number of fish I catch in a week?

**4.** Selwyn collected 3 baskets of eggs. He had 13 in the first basket, 15 in the second and 17 in the third. What was the average number of eggs in each basket?

**5.** Tomas caught the fish on the right. What was the average length of the fish he caught?

**6.** How would you find out the average weight of the pupils in your class? Write some sentences saying what you would do.




**Activity B**

**Read the information carefully and then solve the problem.**

**1.** Here is the rainfall for the week beginning Monday 1st July.

| Day | M | T | W | T | F | S | S |
|---|---|---|---|---|---|---|---|
| amount of rain in mm | 16 | 10 | 0 | 24 | 37 | 60 | 0 |

What was the average rainfall in this week?

# Unit 7

**2.** Coconuts were collected into 8 sacks. What is the average number of coconuts in each sack?

| sack | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| coconuts | 26 | 22 | 28 | 27 | 32 | 35 | 21 | 33 |

**Reminder**

Read each problem carefully. What is it asking you to find out? How are you going to do that?

**3.** Look at these test results. The test was marked out of 100. What was the average mark?

| Name | Marks |
|---|---|
| Mark | 93 |
| Ellen | 37 |
| Frank | 87 |
| Joash | 44 |
| Stanley | 63 |
| Rebecca | 25 |
| Eva | 54 |
| Patterson | 73 |
| James | 19 |

**4.** We collected shells and shared them out when we had finished. How many did each of us get?

| Name | Marks |
|---|---|
| Walter | 28 |
| Moses | 0 |
| Junior | 33 |
| Mathias | 17 |
| Albert | 67 |

**5.** Desmond went to town and did some odd jobs. Look at what he earned each day. What were his average earnings at the weekend?

| M | T | W | T | F | S | S |
|---|---|---|---|---|---|---|
| $22 | $4 | $17 | $0 | $27 | $30 | $0 |

### Activity C

**Solve one of these problems in your group. You will need to find out some information before you can work out the answer.**

1. What is the average class size in your school?
2. What is the average number of people living in each house in your village or your community?
3. What is the average height of the pupils in your group?
4. What is the average amount of time that pupils in your class spend on their homework in the evening?

## Check Up Page

**1.** 11 ÷ 2 = ☐ r ☐ **2.** 17 ÷ 4 = ☐ r ☐

**3.** $3\overline{)13}$ **4.** $4\overline{)11}$ **5.** 25 ÷ ☐ = 8 r 1

**6.** 35 ÷ 6 = ☐ r 5 **7.** ☐ ÷ 7 = 3 r 5 **8.** 19 ÷ 8 = 2 r ☐

**9.** If you divide 19 oranges between three children how many does each one get and how many left over?

**10.** A farmer is putting pineapples into baskets. He has 38 pineapples. If each baskets has 5 pineapples in it how many basket can he fill?

Will he have any pineapples left over?

**11.** What is the average of 3, 5, 6, 0, 6?

**12.** Find the average of 20, 10, 12 and 6.

**13.** Green coconuts were collected in 6 sacks. What is the average number of green coconuts in each sack?

| sack | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| coconuts | 19 | 22 | 18 | 24 | 22 | 9 |

**14.** 329 ÷ 4 = **15.** 265 ÷ 2 = **16.** 1,313 ÷ 5 = **17.** 3,987 ÷ 3 =

**18.** Here is a table showing the number of visitors who came and stayed in our village this year.

| **Month** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| number of visitors | 20 | 14 | 9 | 10 | 8 | 2 | 9 | 12 | 9 | 10 | 20 | 21 |

**a.** When did most visitors come?

**b.** When did the fewest visitors come?

**c.** What was the average number of visitors each month?

**d.** Was the average number of visitors more or less in the first six months of the year than in the last six months of the year?

# Unit 8

## 1a Units for Measuring Mass

**Activity A**

**1. Look at the list of objects below. Copy the list into your exercise book. Next to each one write which unit you would use to find its weight.**

| | Object | Unit |
|---|---|---|
| **a** | a sack of copra | |
| **b** | a bucket of water | |
| **c** | a water tank | |
| **d** | a canoe | |
| **e** | an orange | |
| **f** | an exercise book | |
| **g** | a dog | |
| **h** | a piece of paper | |
| **i** | a big fish | |
| **j** | a truck | |
| **k** | a pencil | |
| **l** | a bus | |

**Remember!**

Use **grams** for light objects, use **kilograms** for heavier objects and use **tonnes** for very heavy objects.

**Activity B**

**Read the statements below. Write down which statements make sense and which do not make sense. Have the right units been used? If the statement does not make sense, write it out again using the correct units.**

**1.** Mother weighed out 750 kg of flour for the birthday cake.

**2.** My new baby weighed 3.2 kg when he was born.

**3.** When we got the chicken ready to roast it weighed 3 grams.

**4.** My grandfather has put on a lot of weight. He now weighs 85 tonnes.

**5.** The sack of kumara weighed 30 kg so I could not lift it.

**6.** The pumpkin we grew weighed $2\frac{1}{2}$ tonnes.

# 2a Adding Weights in Grams and Kilograms

**Activity A**

1. **Find the items that can put together to weigh 1 kilogram. Write down the letters of the items in each set in your exercise book. How many can you find?**

# Unit 8

**Activity B**

**1. Look at the items in Activity A. If you bought the three heaviest items, how much would they weigh altogether? Write your answer in kg and g.**

**2. Choose three items which you could buy where the total weight would be 1 kg 140 g. What are these items?**

**3. If you bought the Milo, milk and sugar how much would these items weigh?**

**4. If you bought Cherry Cream biscuits, rice and corned beef what would the shopping weigh altogether?**

**5. How many packets of Sao biscuits weigh the same as the bag of rice?**

| **Change these grams into t, kg and g.** | |
|---|---|
| **6.** 1,000 g | **11.** 1,000 kg |
| **7.** 2,250 g | **12.** 2,400 kg |
| **8.** 3,150 g | **13.** 12,200 kg |
| **9.** 5,040 g | **14.** 23,500 kg |
| **10.** 4,008 g | **15.** 17,750 kg |

**Reminder**

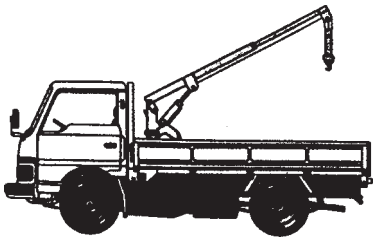
1,000 g = 1 kg
1,000 kg = 1 t

**Activity C**

**Solve these problems**

**1.** A transport company has two crane trucks. One crane truck can carry a 1 tonne load. The other can carry a 2 tonne load. The unloaded mass of each truck is given below. Find the loaded mass in tonnes and kilograms for each truck when each is carrying its biggest load.

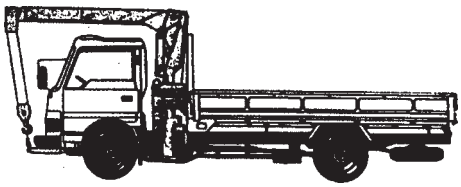
**Truck A**



1 tonne truck

unloaded mass is 1,765 kg

**Truck B**

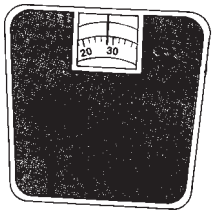


2 tonne truck

unloaded mass is 1,970 kg

**2.** If the total mass of the 1 tonne truck and its load is 2,486 kg. How heavy is the load it is carrying?

**3.** Leah weighed herself on the bathroom scales. She weighed $31\frac{1}{2}$ kg. When she dropped her wet towel on to the floor, her actual mass was 28 kg. What was the weight of the wet towel in kg and g?



**4. The Post Office has to weigh non standard articles such as large letters and small packets. The cost to post these items depends upon how heavy the items are and where they are being sent.**

| POSTAL CHARGES | | |
|---|---|---|
| **Mass** | **Surface** | **Air Mail** |
| up to 50 g | 40c | 50c |
| over 50 g up to 100 g | 55c | 70c |
| over 100 up to 250 g | 70c | $1.10 |
| over 250 up to 500 g | $1.10 | $2.00 |

**a.** If you were to send 2 small parcels by air mail, how much would it cost if they weighed 25 grams each?

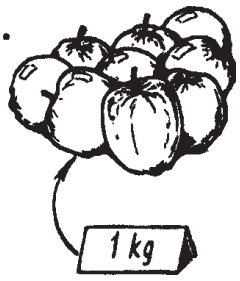
**b.** How much would it cost to send 5 letters by surface mail if each letter weighed 245 g?

**c.** How much more would it cost to send them by air mail?

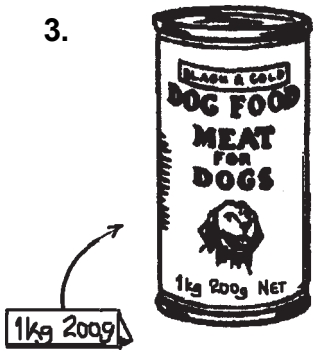
## 3a Different Ways of Writing Mass

**Activity A**

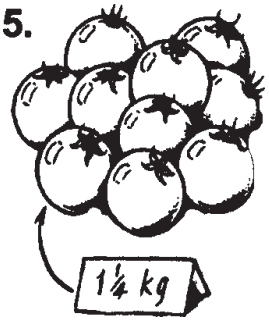
**Write the mass for each of the items in grams.**

1. 


2. 


3. 

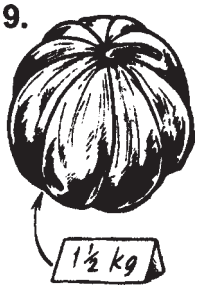

4. 


5. 


6. 


7. 


8. 


9. 

# Unit 8

**Activity B**

**Copy and complete these tables in your exercise book.**

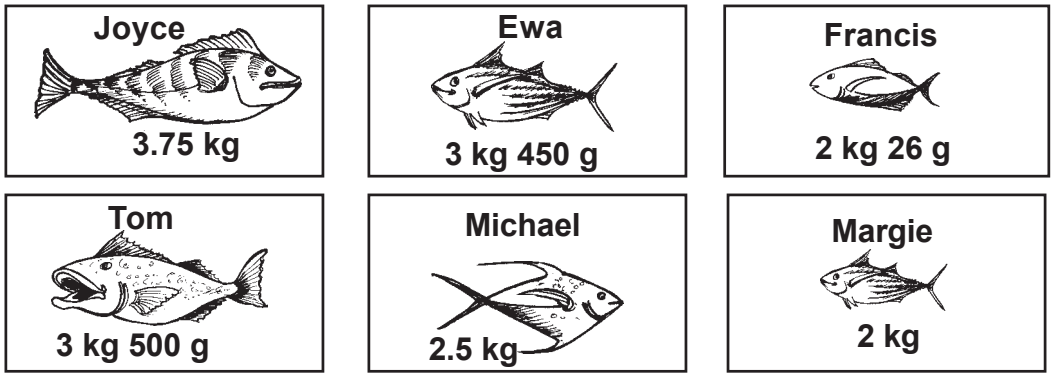
| grams | kilograms |
|---|---|
| **1.** 3,000 | |
| **2.** 7,000 | |
| **3.** 2,000 | |
| **4.** 1,500 | |
| **5.** 6,500 | |
| **6.** | 3.5 |
| **7.** | 4 |
| **8.** | 8.5 |

| grams | kilograms |
|---|---|
| **9.** 4,500 | |
| **10.** 3,500 | |
| **11.** 4,250 | |
| **12.** 1,750 | |
| **13.** 500 | |
| **14.** | 0.5 |
| **15.** | 2.25 |
| **16.** | 3.75 |

## 3b Kilograms and Grams

**Activity A**

1. **In a fishing competition the person who caught the largest fish was the winner. The cards below show the weight of fish caught by six people. Put the names of the competitors in order starting with the winner.**



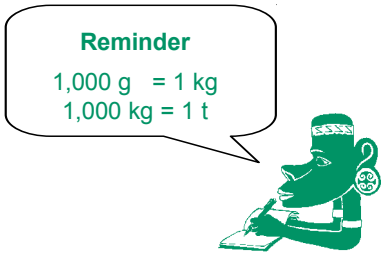

2. **Copy and complete the table to show the weight of each persons' fish in grams and kilograms.**

| Name | Weight in grams | Weight in kilograms |
|---|---|---|
| Joyce | | 3.75 kg |
| Ewa | 3,450 g | |
| Francis | 2,260 g | |
| Tom | | |
| Michael | | 3.5 kg |
| Margie | | 2.5 kg |

**Activity B**

**Change the following to kilograms. Use decimal notation. The first one has been done for you.**

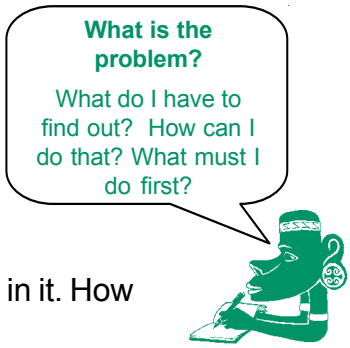
**1.** **3 kg 450 g** **3. 45 kg**
**2.** 3 kg 260 g
**3.** 2 kg 980 g
**4.** 2 kg 720 g
**5.** 2 kg 380 g
**6.** 3 kg 286 g
**7.** 1 kg 30 g
**8.** 6 kg 26 g
**9.** 2 kg 983 g
**10.** 1 kg 32 g
**11.** 2 kg 18 g
**12.** 3 kg 20 g




**Change kilograms to grams.**

**13.** **5 kg** **5,000 g**
**14.** 6.756 kg
**15.** 20 kg
**16.** 15.65 kg
**17.** 32 kg
**18.** 3.45 kg
**19.** 100 kg
**20.** 1.33 kg

## 4b Mass Problems




**Activity A**

**1.** I can carry 5 kg of bananas. My basket has 750 g of bananas in it. How much more weight can I put in my basket?

**2.** I weigh 47 kg and my brother weighs half as much as me. How much does my brother weigh?

**3.** When the truck is loaded with copra it weighs 20 t. If the truck weighs $4\frac{1}{2}$ t when it is empty how much does the copra weigh?

**4.** My friends weigh 39 kg, 52 kg and 47 kg. If I weigh 42 kg what is our average weight?

**5.** I caught 5 fish. If the average weight of the fish was 750 g how heavy was my catch?

# Unit 8

## Activity B

1. My village garden produced 17.6 kg tomatoes, 12.4 kg beans, 0.2 t peanuts, 550 kg kumara, and 556 kg cassava. What is the total weight of the produce?
2. Three containers weighing 10 t altogether were loaded onto a ship. If the first weighed 4.37 t and the second weighed 2.65 t what was the weight of the third container?
3. David weighed his dog by holding it while he stood on the scales. Together they weighed 77.25 kg. David knew that his own weight was 53.5 kg. How much did his dog weigh?

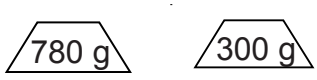
4. Mrs. Tua bought 1.35 kg rice, 750 g flour, 125 g salt, 2 kg sugar and a fish weighing twice as much as her rice. How heavy was her load?
5. I was allowed to take 20 kg of luggage on the plane. If my suitcase weighed 18.275 kg how much more weight could I have packed?

**Tip!**

Read your problem carefully.
What do you need to find out?
Is there enough informatinon?
Is there too much information?

## Activity C

1. The ship from Honiara was loaded with rice for Yandina. The mass of the rice was as follows, 125 20 kg bags , 150 10 kg bags and 550 5 kg bags. What was the weight of the cargo in tonnes?
2. To make a cake my grandmother needs 750 g of flour, 150 g of sugar and 75 g of butter. If she made a cake every week for a whole year how much flour, sugar and butter would she use?
3. I have a pair of scales but only two weights. The mass of one is 780 g and the mass of the other is 300 g.




If I wanted to weigh out 960 g of flour how could I do it?

**4.** Two trucks are loaded with logs to be taken to the wharf. Each truck can carry 45 t of logs. The green truck which left at 10.30 am on Thursday carried 27.65 t. The red truck which left on Friday at 12.45 pm carried 42.75 t of logs. If both trucks had been fully loaded what is the extra weight of logs they could have carried?

**5.** The weight of Joshua's pig is $\frac{1}{3}$ of the weight of mine. Mary's young pig weighs 10 kg less than Joshua's but it is 30 kg heavier than Selwyn's piglet. If Selwyn's piglet weighs 30 kg how heavy is my pig?

**6.** Altogether, John's family weigh 209 kg. His little sister weighs 15.25 kg. If John weighs 10.5 kg less than his mother and John's father weighs 9.25 kg more than his mother, how much does John's mother weigh?

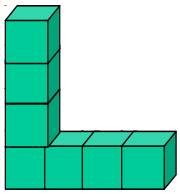
## 1a Cube Models

**Activity A**

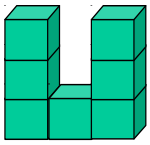
**Use cubes, matchboxes or any boxes to make models. Work with a partner and build a model with cubes or boxes. Let your friend build another model using the same number of boxes.**

**Example: Sam and Joan have built different models using 7 cubes**

Sam's Model



Joan's Model



**Remember!**

The amount of space something takes up is called its **volume**.

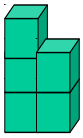
**Answer the following questions while you work with each model.**

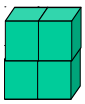
1. Which model looks bigger?
2. Do they take up the same amount of space?
3. Do do they have the same volume?

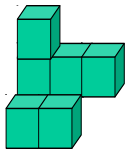
# Unit 8

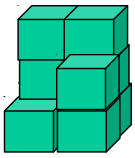
**Activity B**

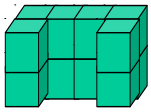
**How many cubes like these  are needed to build each of these models? Count the cubes and record the volume in cubes.**

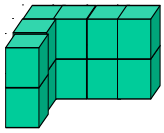
**1.** 

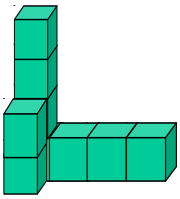
**2.** 

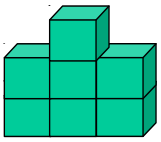
**3.** 

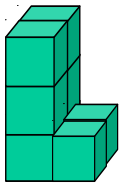
**4.** 

**5.** 

**6.** 

**7.** 

**8.** 

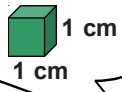
**9.** 

**10.** There are two pairs of cubes above that have the same volume, which are they?

## 2a Cubic Centimetres

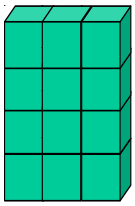
**Reminder**

The metric unit for volume is **cubic centimetres.**
This cube has a volume of 1 cubic centimetre or 1 $cm^3$.




**Activity A**

**Write down the volume of each of these shapes in two different ways. The first one has been done for you.**

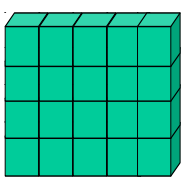
**1.** 

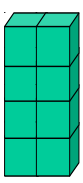
This model is made up of 12 cubes,

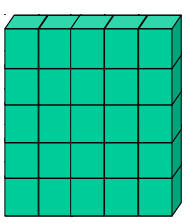
1 cube = 1 cubic centimetre

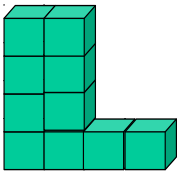
12 cubes = 12 cubic centimetres

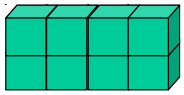
**Volume = 12 cubic centimetres or 12 $cm^3$**

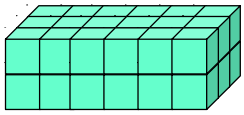
**2.** 

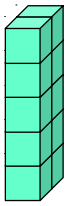
**3.** 

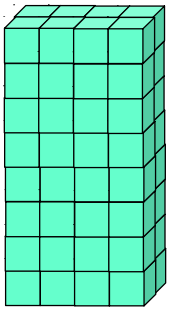
**4.** 

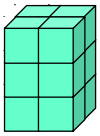
5. 

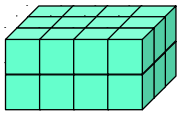
6. 

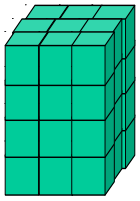
7. 

8. 

9. 

10. 

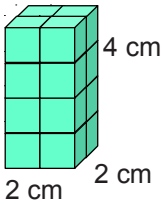
11. 

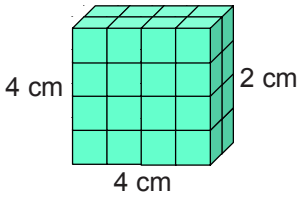
12. 

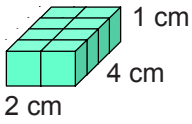
## 3a Calculating Volume

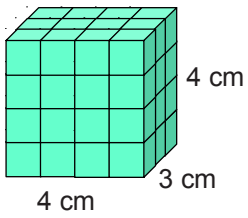
**Activity A**

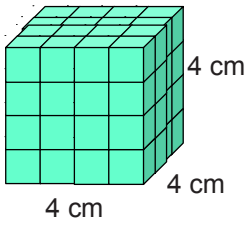
**Calculate the volume of each of these prisms using the formula you have learnt. Show your working out.**

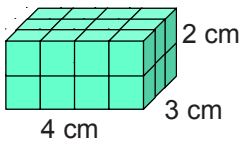
1. 

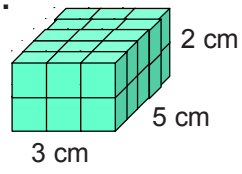

2. 

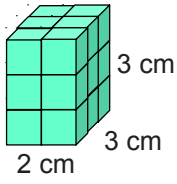

3. 


4. 


5. 


6. 


7. 


8. 


**Remember!**

volume = length x breadth x height

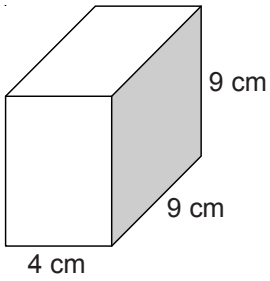
**v = l x b x h**

# Unit 8

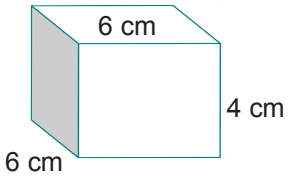
### Activitiy B

**Work out the volume of these shapes using the volume formula.**

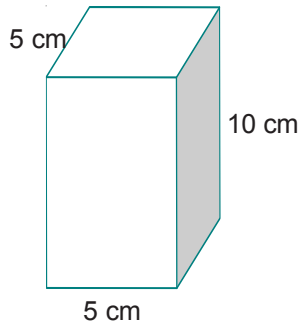
**1.**



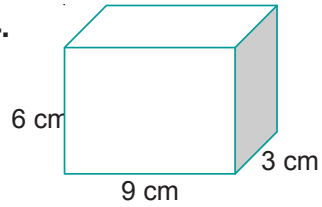

**2.**



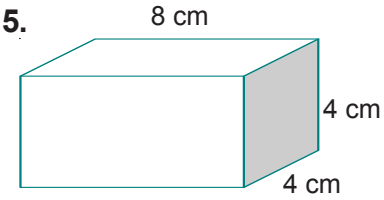

**3.**



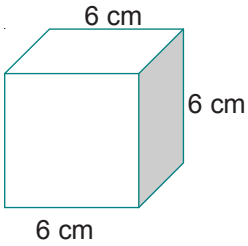

**4.**




**5.**



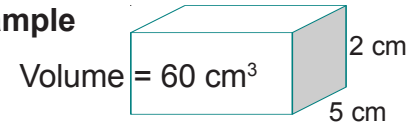

**6.**




### Activity C

**Find the length of these shapes. Use the volume formula to work out the answers. Study the example and then complete the activity in your exercise book.**

**1. Example**




volume = l x b x h

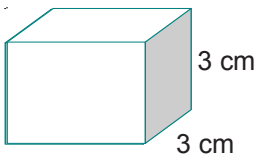
60 $cm^3$ = length x 5 cm x 2 cm

Length = $\frac{\text{volume}}{\text{b x h}} = \frac{60\ cm^3}{5 \times 2}$

= 60 $cm^3$ divided by 6 cm

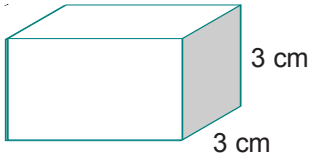
**Answer:** length = 6 cm

**2.**




**Volume** = 36 $cm^3$

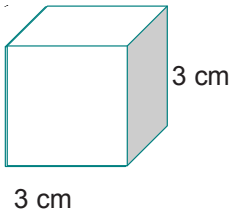
**3.**




**Volume** = 45 $cm^3$

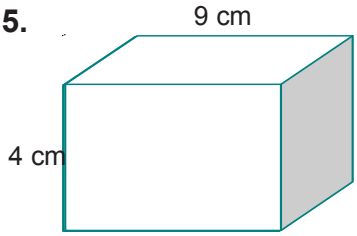
**Find the breadth of these shapes.**

**4.**



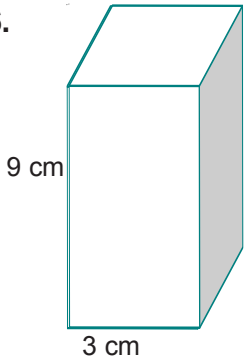

**Volume** = 27 cm³

**5.**




**Volume** = 144 cm³

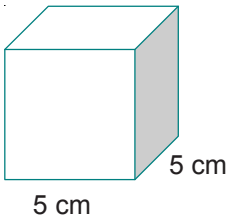
**6.**




**Volume** = 108 cm³

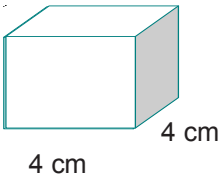
**Find the height of these shapes**

**7.**



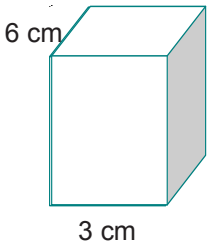

**Volume** = 100 cm³

**8.**




**Volume** = 48 cm³

**9.**



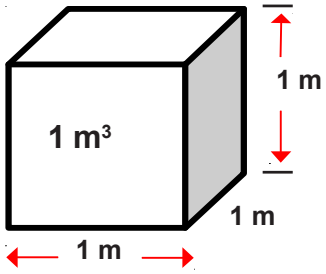

**Volume** = 108 cm³

## 3b Using the Formula v = l x b x h

**Activity A**

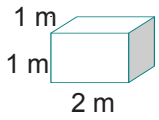
**Calculate the volume of these shapes using the formula v = l x b x h.**

**1 m x 1 m x 1 m = 1 cubic metre or 1 m³**

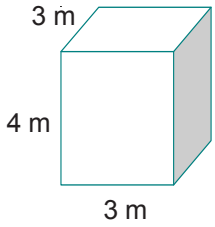


# Unit 8

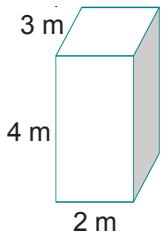
**1.**



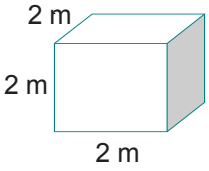

**2.**



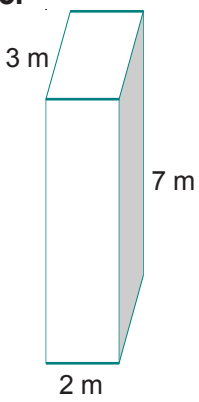

**3.**



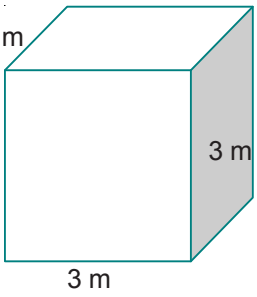

**4.**




**5.**

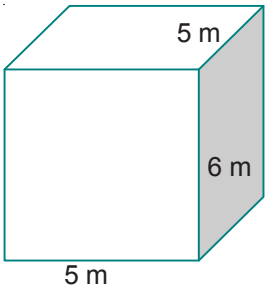



**6.**

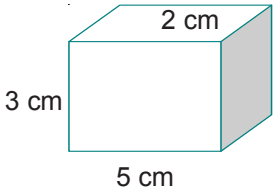



**Find the volume of these shapes. Check the units carefully.**

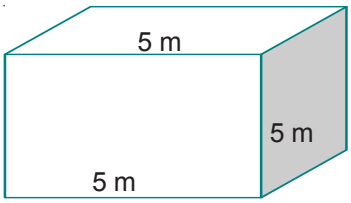
**7.**



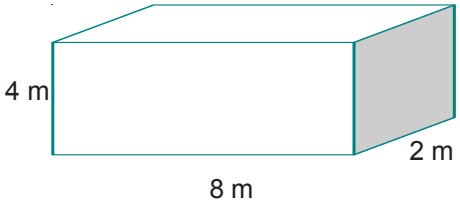

**8.**



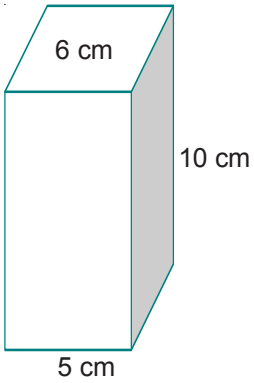

**9.**



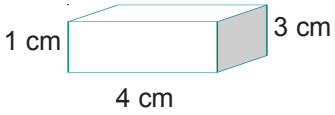

**10.**




**11.**



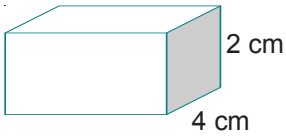

**12.**



## Activity B

**The volume of each shape is given. Look at the diagram. Can you work out the missing measurement using the formula? The first one has been done for you.**

**1.**



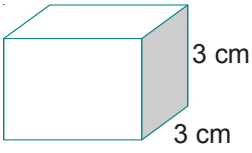

Volume = 32 $cm^3$

What is the length?

v = l x b x h

32 $cm^3$ = l x 4 cm x 2 cm

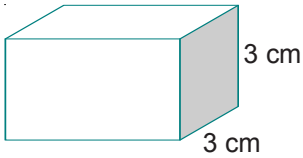
**2.**




Volume = 36 $cm^3$

What is the length?

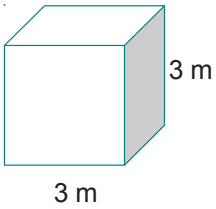
**3.**




Volume is 45 $cm^3$

What is the length?

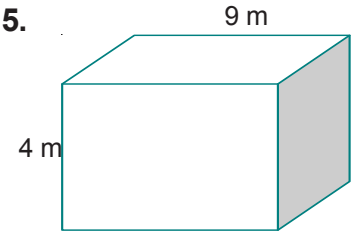
**4.**




Volume is 27 $m^3$.

What is the height?

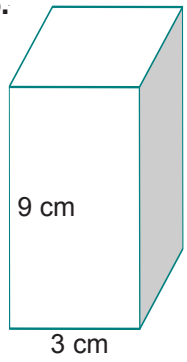
**5.**




Volume is 144 $m^3$.

What is the width?

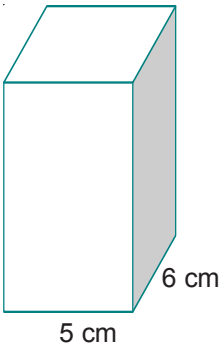
**6.**




Volume is 81 $cm^3$.

What is the width?

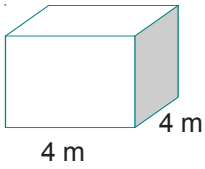
**7.**




Volume is 300 $cm^3$

What is the height?

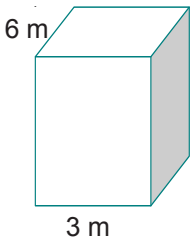
**8.**




Volume is 48 $m^3$

What is the height?

**9.**




Volume is 126 $m^3$

What is the height?

# Unit 8

## Check Up Page

**1. Look at this list of objects. Next to each one write which unit you would use to measure their mass.**

| | unit of mass | | unit of mass |
|---|---|---|---|
| **a.** wheelbarrow | | **b.** 20 cents coin | |
| **b.** bus | | **d.** pig | |

**2. Change these grams to kilograms and grams.**

**a.** 1,324 grams

**b.** 2,578 grams

**c.** 2,075 grams

**3. Change these kilograms to grams.**

**a.** $3\frac{1}{2}$ kg

**b.** 1 kg 353 g

**c.** 2 kg 50 g

**4. Changes these kilograms to and tones and kilograms.**

**a.** 2,250 kg

**b.** 1,607 kg

**c.** 3,050 kg

**5. How many grams in:**

**a.** 3 kg

**b.** $2\frac{1}{2}$ kg

**c.** 1.25 kg

**d.** 0.75 kg

**e.** 4.2 kg

**f.** 2.323 kg

**g.** $1\frac{1}{4}$ kg

**h.** 1.5 kg

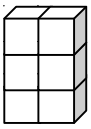
**6. At Christmas I weighed 531 kg. In February I weighed 750 g more. How much did I weigh in February?**

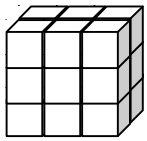
**7. a.** I bought 3 the three heaviest items. How heavy was my load?

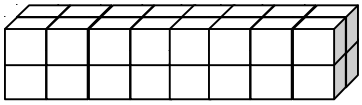
**b.** What is the total mass of these items?

8. We grew watermelons in our school garden. My watermelon was the heaviest. Rose's watermelon was 500 g lighter than mine. Michael's watermelon weighed 1 kg and was half the weight of Rose's. How much did my watermelon weigh?

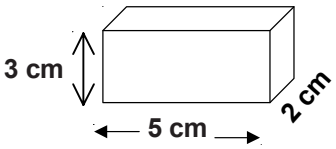
9. These shapes are made up of 1 $cm^3$ units. Write the volume of each shape.

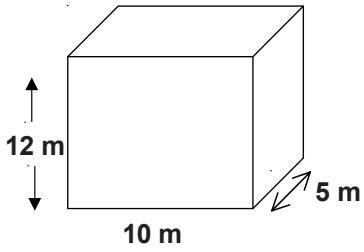
a. 

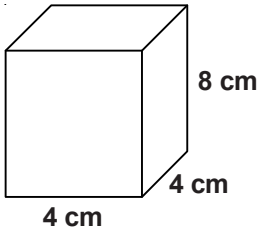
b. 

c. 

10. What is the volume of each of the shapes below?

a. 


b. 


c. 


11. If the length of a prism is 9 cm, its height is 4 cm and its volume is 72 $cm^3$ what is its breadth?

12. If the volume of a water tank is 12 $m^3$ and its height is 2 m what could its length and breadth be?

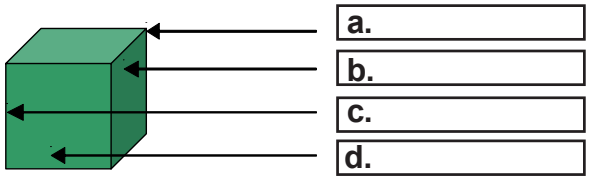
# Unit 9

## 1a Revision of Solid Shapes

### Activity A

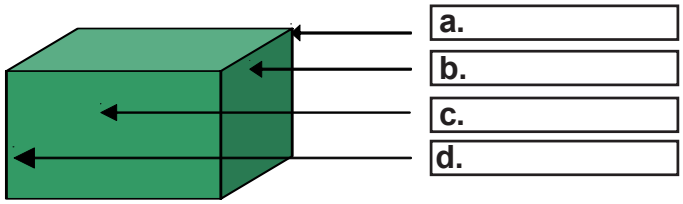
**Copy the two diagrams into your exercise book. Label them using the labels given in the box. You may need to use some labels more than once.**

**1.**




Shape A _____

**2.**



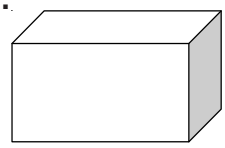

Shape B _____

| |
|---|
| square face |
| face |
| cube |
| rectangular face |
| vertex |
| edge |
| cuboid |

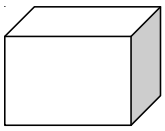
### Activity B

**Look at the shapes below carefully then write a description of each shape in your exercise book. Your description should include the information in the box.**

**1.**



**2.**



| |
|---|
| The **name** of the shape. |
| How many **edges, faces** and **vertices** it has. |
| What **shape** the faces are. |
| The **relative** length of the edges. |

### Activity C

**Sketch the shapes described below in your exercise book.**
**Write the name of each shape underneath.**

**1.** This shape has 6 faces. Two of the faces are square the other four are rectangles in which one side is twice as long as the other.

**2.** This shape has 6 faces that are all the same shape.

**3.** This shape has 12 edges. They are all the same length.

**4.** This shape has 12 edges. 8 are short and 4 are long.

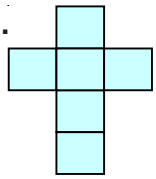
**5.** This shape has 8 vertices all of which are the same distance apart.

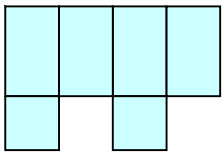
## 1b Nets of Solid Shapes

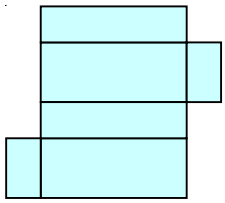
### Activity A

**Look at the nets below. These can be folded into solid shapes. In your exercise book sketch the solid shape each net would make when folded. Name each shape.**

1. 

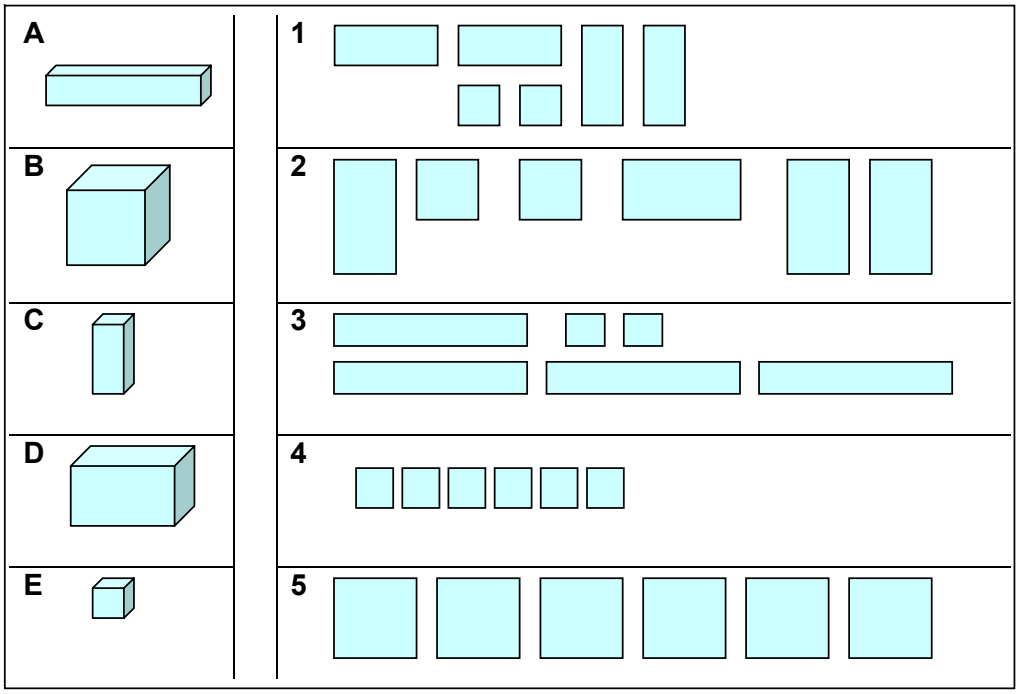
2. 

3. 

4. 

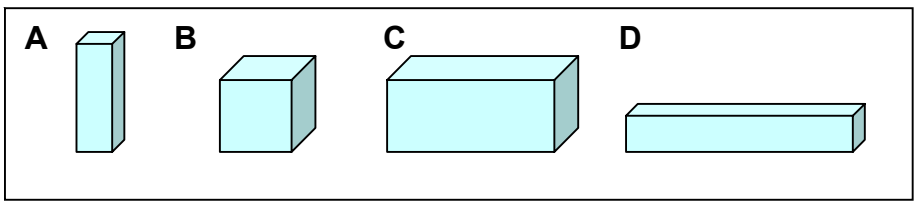
### Activity B

**Match the solid shape on the left to one of the sets of faces drawn on the right. Then write the name of each of the shape in your exercise book.**




### Activity C

**In your exercise book sketch a net for each of the solid shapes shown.**




**Remember!**
A cube net must have 7 pairs of sides of equal length.

# Unit 9

## 2b Investigating Pyramids

**Activity A**

**In your group, study the different pyramids you have been given. Look carefully at each shape. Count the vertices, faces and edges, identify the apex.**

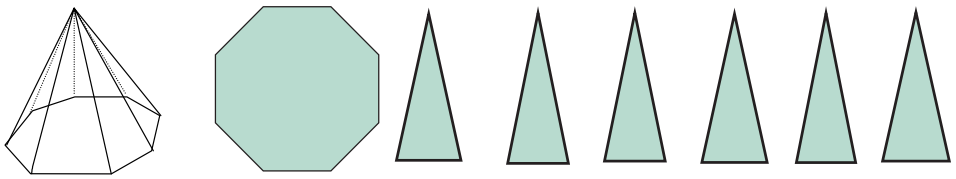
**Copy the table below into your exercise book and complete it using your observations of each shape. The first one has been done for you.**

| Name of the shape | Number of faces | Number of edges | Number of vertices | Shape of the base |
|---|---|---|---|---|
| **1. Triangular pyramid** | 4 | 6 | 4 | Triangle |
| **2. Rectangular pyramid** | | | | |
| **3. Pentagonal pyramid** | | | | |
| **4. Hexagonal pyramid** | | | | |
| **5. Octagonal pyramid** | | | | |

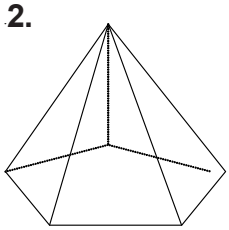
**Activity B**

**Look at each shape. Write the name of each shape in your exercise book and draw a set of faces which make up each shape. The first one has been done for you.**

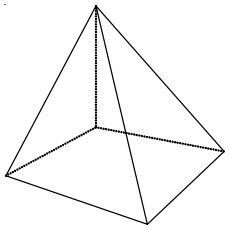
**1.** *Hexagonal Pyramid*



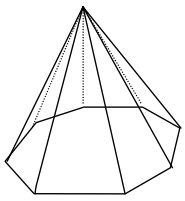
**2.**



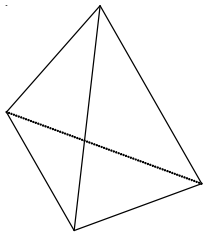
**3.**



**4.**



**5.**



**Activity C**

**Sketch and write your answers in your exercise book.**

**Remember!**
The apex is the highest point of a solid shape from its base.

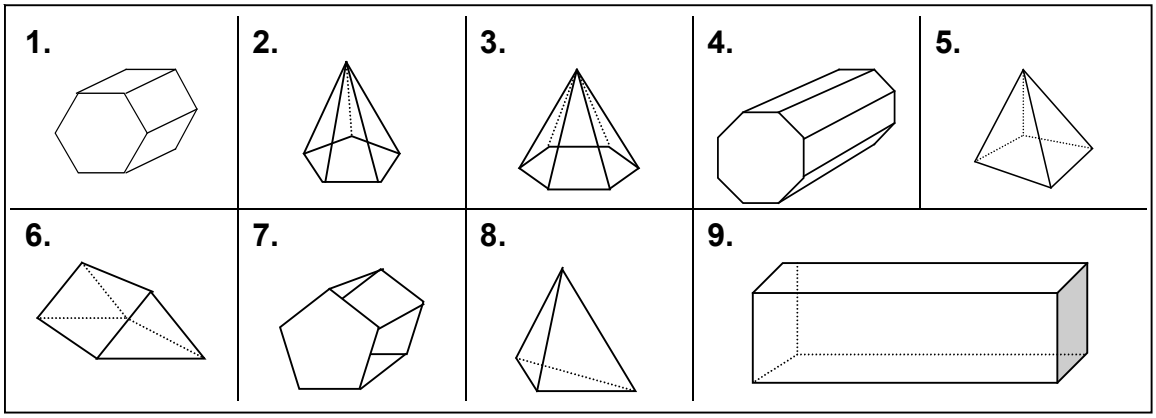
**1.** Sketch the faces of a rectangular pyramid.
**2.** Sketch the faces of a hexagonal pyramid.
**3.** How many edges does an octagonal pyramid have?
**4.** How many faces does a triangular pyramid have?
**5.** How many edges meet at the apex of a hexagonal pyramid?
**6.** Sketch a net for a square based pyramid.

## 2c Pyramids and Prisms

**Reminder**
A **prism** has 2 bases of the same shape which are joined by equal rectangular faces.

**Activity A**

**Match each shape to its correct name.**
**Write the names and sketch each shape in your exercise book**




**A.** Triangular Prism
**B.** Rectangular Prism
**C.** Hexagonal Prism
**D.** Rectangular Pyramid
**E.** Pentagonal Pyramid
**F.** Octagonal Prism
**G.** Triangular Pyramid
**H.** Hexagonal Pyramid
**I.** Pentagonal Prism

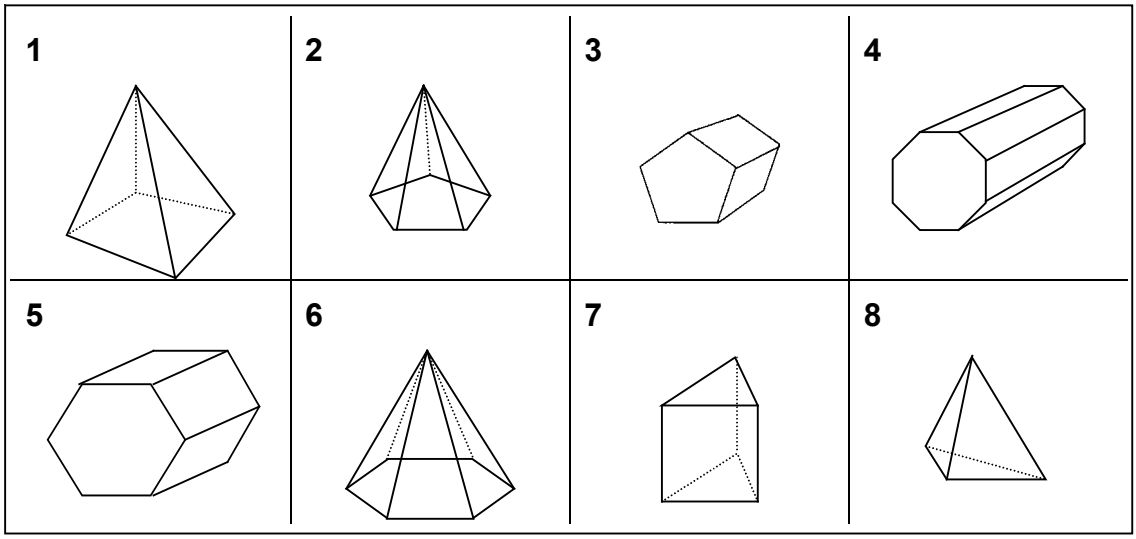
**Reminder**
A **pyramid** has a base of one shape and all other faces are triangular.

# Unit 9

**Activity B**

**Study the shapes in the box below. Look at the shape of the base of each shape and the shape of the other faces. Decide whether each shape is a prism or a pyramid.**

**Copy and complete the table in your exercise book.**




| | | | Number of | | |
|---|---|---|---|---|---|
| | **Shape of the base or ends** | **Name of the solid** | **faces** | **vertices** | **edges** |
| **1** | | | | | |
| **2** | | | | | |
| **3** | pentagon | | 7 | | 15 |
| **4** | | | | | |
| **5** | | | | | 18 |
| **6** | | hexagonal prism | | | |
| **7** | triangle | | | | |
| **8** | | | | 4 | |

**Activity C**

**Complete the table in Activity B and then answer the following questions in your exercise book.**

1. Why is shape 6 called a hexagonal prism?
2. Describe the difference between shape 7 and shape 8.
3. Describe the difference between shape 2 and shape 6.
4. What similarities are there between shape 5 and shape 4?
5. Which shapes have an apex?
6. Explain in your own words the difference between a **pyramid** and a **prism**.

## 3a Constructing Prisms and Pyramids

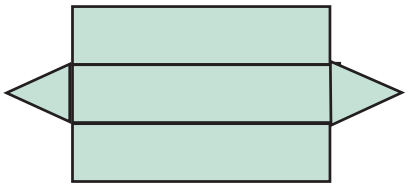
**Activity A**

**Work in your group to draw nets and construct prisms of various shapes. The shape of the nets are shown below to help you.**

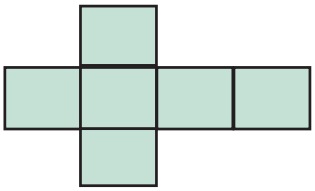
**Be Careful!**

Measure and cut your shapes carefully using a ruler or squared paper and scissors. Your prisms will not fit together if they are not cut accurately.

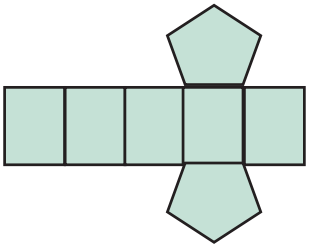
**Triangular Prism**



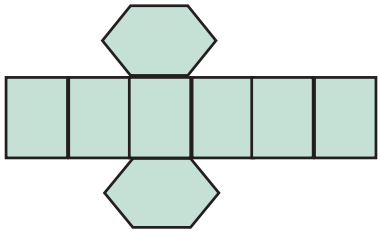
**Rectangular Prism**



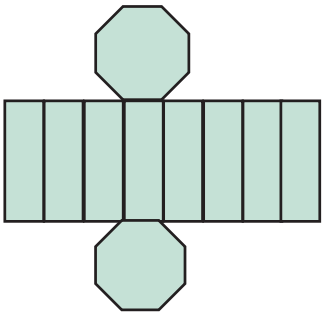
**Pentagonal Prism**



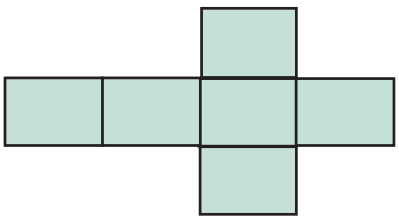
**Hexagonal Prism**



**Octagonal Prism**



**Cube**



# Unit 9

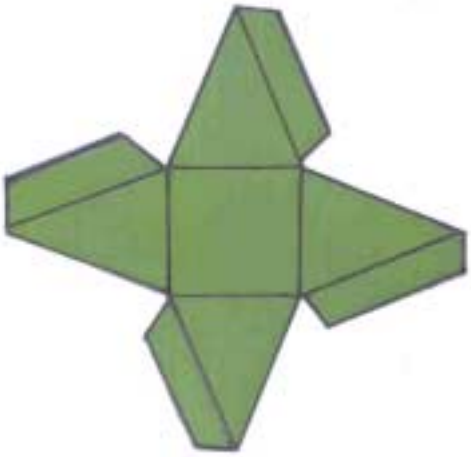
**Activity B**

**Work in your groups to draw nets for various shaped pyramids and construct the solid shapes.**

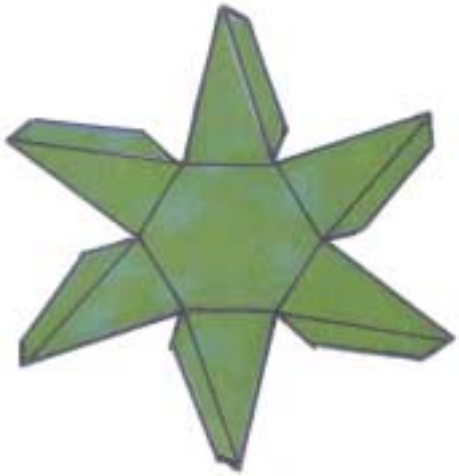
**The shape of the nets are shown below to help you.**

**Triangular Pyramid**

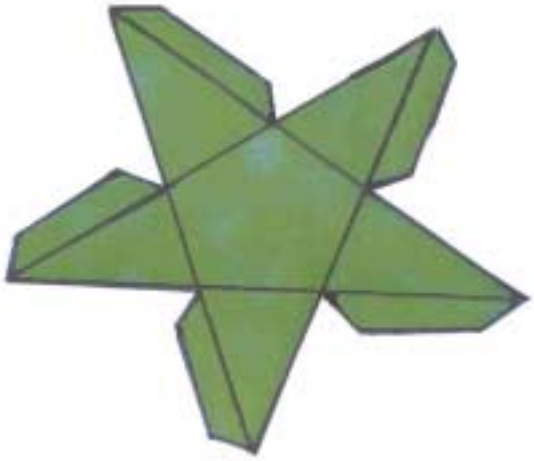
**Square Based Pyramid**



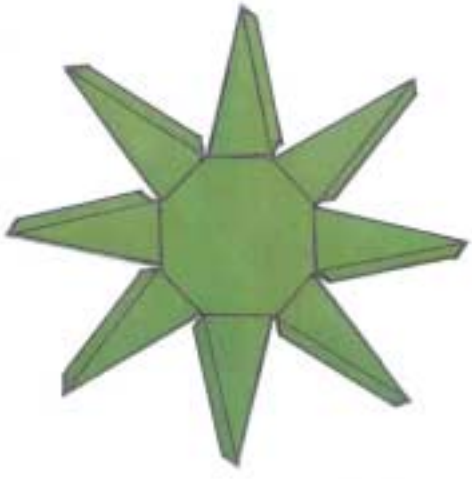
**Pentagonal Pyramid**



**Hexagonal Pyramid**



**Octagonal Pyramid**



## 1c Strengthening Structures

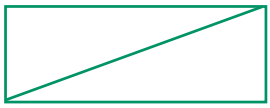
**Remember**

A shape can be made rigid with a diagonal strut. Rigid shapes are triangular.

### Activity A

**Below is a set of shapes representing structures. Decide which you think are** rigid **and which are** less rigid**. Write your answers in your exercise book.**

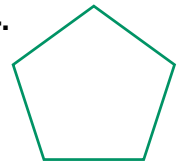
**1.**



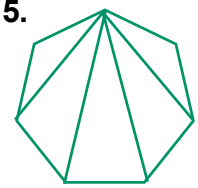
**2.**

**3.**

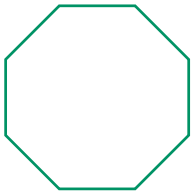
**4.**



**5.**



**6.**



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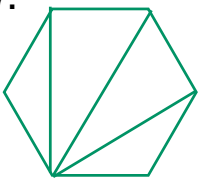

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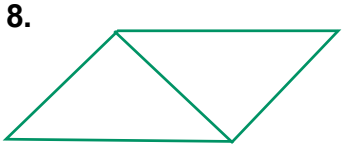
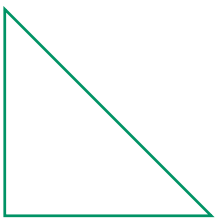


### Activity B

**Copy the following shapes into your exercise book and draw diagonal struts to strengthen them, if they are needed.**

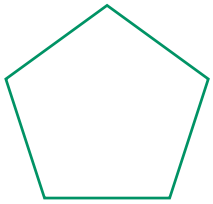
**1.**



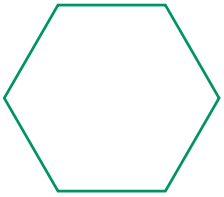
**2.**

**3.**

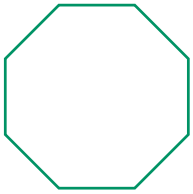
**4.**



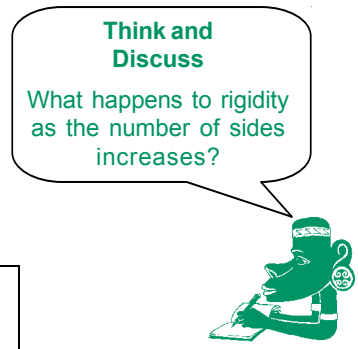
**5.**



**6.**



# Unit 9



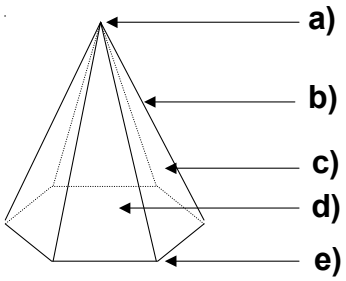

**Activity C**

**Copy and complete the table below in your exercise book. The first one has been done for you.**

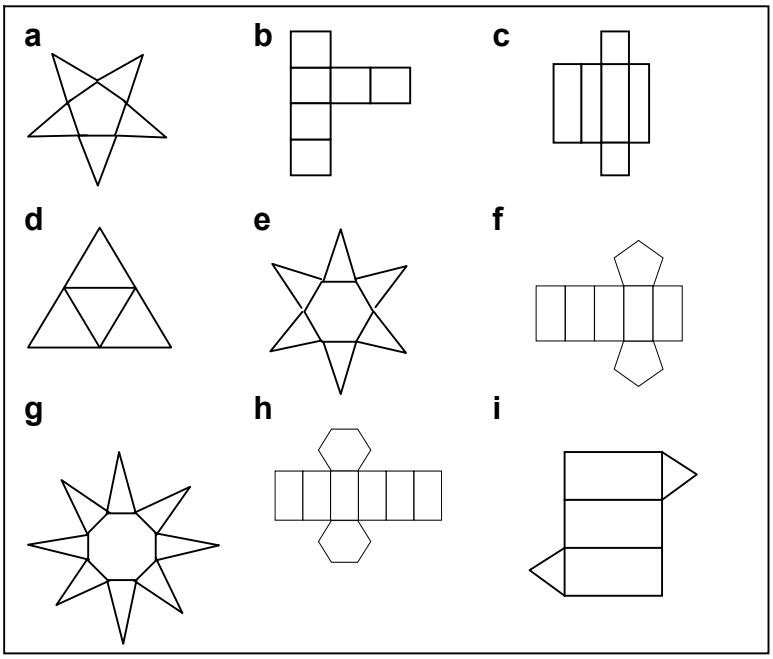
| Shape | Number of sides | Diagonals struts needed to strengthen the structure | Number of triangles when struts are in place |
|---|---|---|---|
| triangle | **3** | **0** | **1** |
| rhombus | | | |
| trapezium | | | |
| pentagon | | | |
| hexagon | | | |
| octagon | | | |

## Check Up Page

1. **Copy the diagram below and label the parts of the shape indicated by the arrows. Write the name of the shape underneath.**




2. **Look at the nets below and write down the names of the solid shape that each one makes.**




3. **Copy the table below and use your knowledge of solid shapes to complete the information.**

| Shape | Number of | | |
|---|---|---|---|
| | Faces | Edges | Vertices |
| hexagonal prism | | | |
| pentagonal pyramid | | | |
| square based pyramid | | | |
| triangular prism | | | |

# Unit 9

**4. In your own words write the meaning of the following terms**

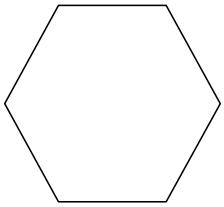
**a.** pyramid **b.** prism **c.** apex **d.** base
**e.** face **f.** vertex **g.** edge

**5. Explain the difference between a pyramid and a prism.**

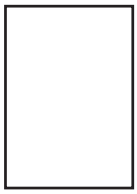
**6. Copy these shapes and draw diagonal struts to strengthen each of the following two-dimensional structures.**

**a.**

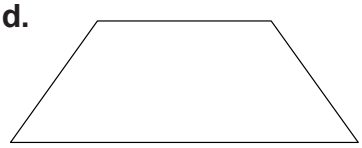
**b.**



**c.**

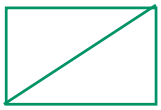


**d.**



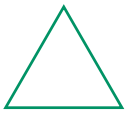
**7. Look at each pair of two-dimensional structures and decide which one is more rigid.**

**ai.**

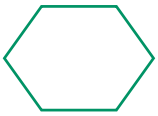


**ii.**

**bi.**



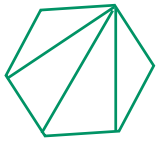
**ii.**



**ci.**

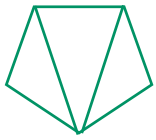
**ii.**

**di.**



**ii.**

**ei.**



**ii.**

**fi.**

**ii.**

**8. a. Write a few sentences explaining how three dimensional structures can be strengthened or made rigid.**

**b. Choose one structure and describe how you could strengthen it. Draw diagrams to illustrate your answer.**

# Unit 10

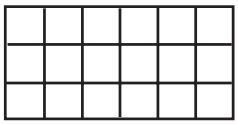
## 1a Calculating the Area of a Rectangle

**Remember!**
Area is the surface covered by any two dimensional shape. Area can be measured in $cm^2$, $m^2$, $km^2$.

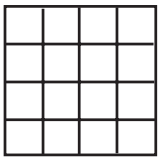
### Activity A

**What is the area? Count the squares to get an answer. Each square represents $1cm^2$.**

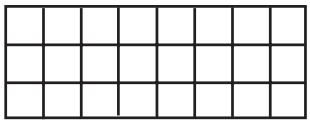
**1.**



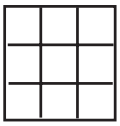
**2.**



**3.**

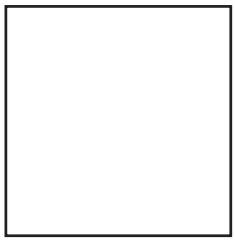


**4.**



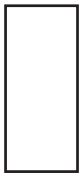
**How many square centimetres can the following shapes be divided into? Use your ruler to draw them in your exercise book showing the squares. Write the area next to each shape.**

**5.**



**6.**

**7.**



**8.**

**9.**

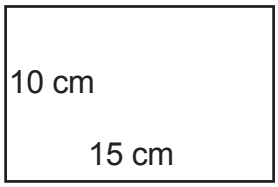
**10.**

### Activity B

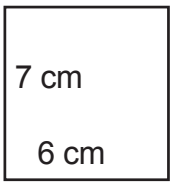
**Find the area of these rectangular shapes. Show your working in your exercise book. Be careful, different units of measurement are used.**

**Reminder**
The area of each rectangle can be found using length x width.

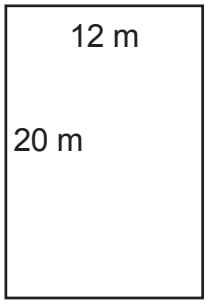
**1.**




**2.**




**3.**

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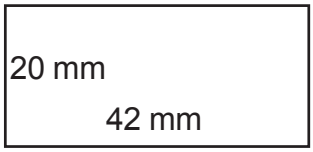
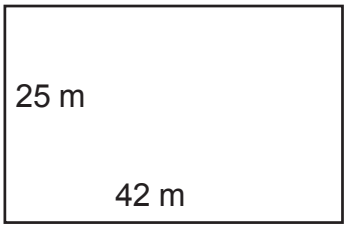
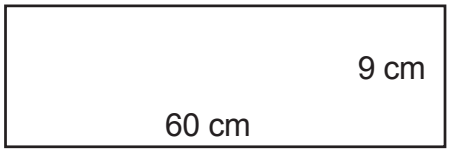



**5.**




**6.**




**7.**

# Unit 10

**Activity C**

**Solve these problems**

1. **Outside Bobo and Maria's house is a garden, which is 20 metres long and 17 metres wide.**
   - **a.** What is the area of the garden?
   - **b.** If it cost $2 per square metre to sow grass seed, how much would it cost to sow grass on the whole garden?
   - **c.** The couple have decided to put a fence around their garden. How many metres of wire is needed to go right round the garden once?
2. **Ben bought 13 m of 1 m wide cloth to make into curtains. Each curtain must be 1 m wide and 2 m long.**
   - **a.** How many curtains can he make?
   - **b.** Will he have any cloth left over? How much?
   - **c.** What is the area of each curtain?
   - **d.** What was the total area of the cloth he bought?
3. **A plot of land measures 50 m by 60 m. There are two houses on the land measuring 10 m by 16 m and 8 m by 18 m.**

   **Sketch the plot and the houses to scale using your ruler.**
   - **a.** What area of land does each house cover?
   - **b.** What area of land is not built on?
   - **c.** What is the total area of the plot?

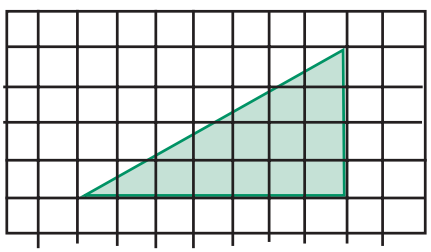
## 2a Measuring and Calculating Area

**Helpful Tip**

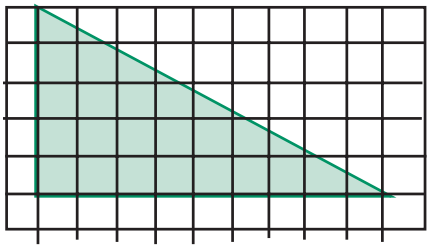
The area of a triangle is half the area of a rectangle of the same length and perpendicular height.

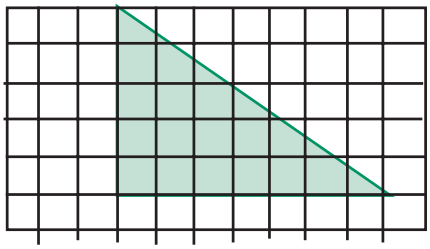
**Activity A**

**Count the squares covered by each triangle to find the area. Write your answers in your exercise book.**

1. 

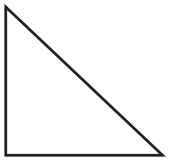
2. 

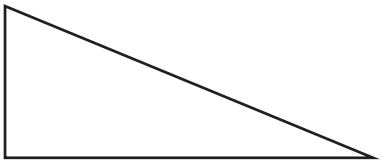
3. 

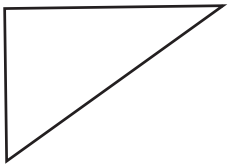
4. 

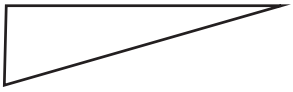
**Activity B**

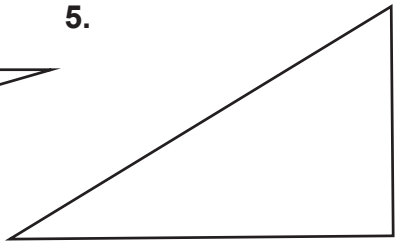
**Measure and calculate the area of the following triangles.**

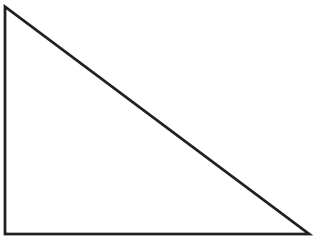
1. 

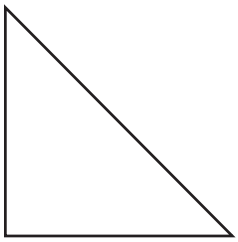
2. 

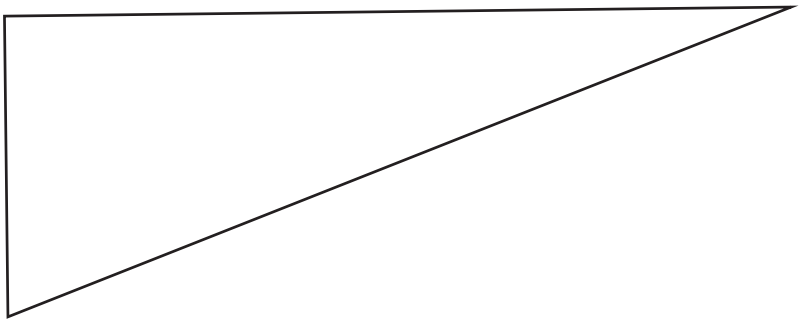
3. 

4. 

5. 

6. 

7. 

8. 

**Activity C**

**Use your ruler to draw triangles in your exercise book with the following areas.**

1. 12 $cm^2$ 2. 6 $cm^2$ 3. 18 $cm^2$ 4. 4 $cm^2$

# Unit 10

## 3a Calculating the Area of a Triangle

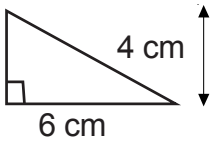
**Formula**

Area of a triangle = $\frac{1}{2}$ base x height.

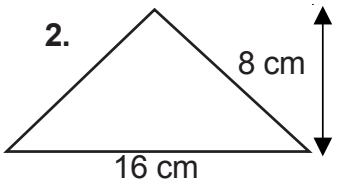
**Activity A**

**Calculate the area of the following triangles using the formula.**

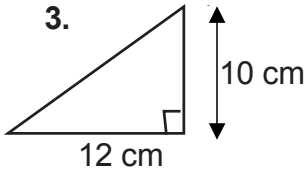
**1.**




**2.**




**3.**

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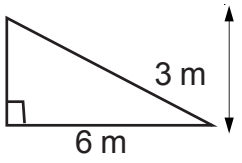
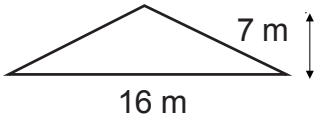
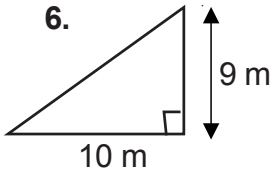



**5.**




**6.**

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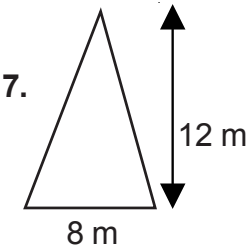
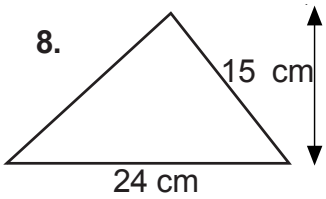
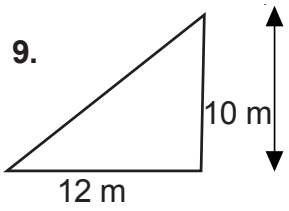


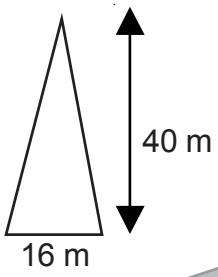

**8.**




**9.**



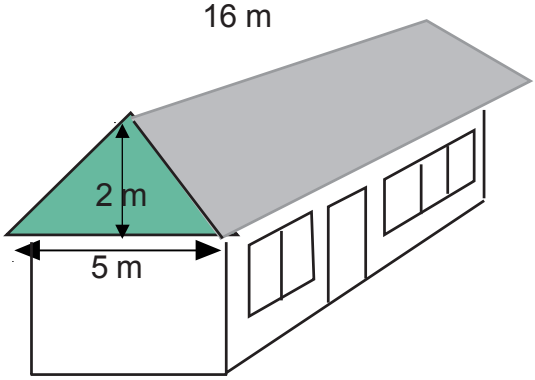

**10.**




**Activity B**

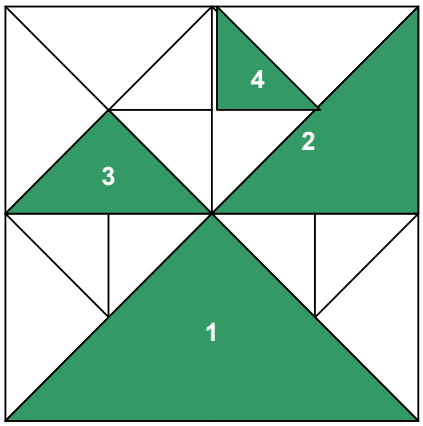
**1.** This triangular prism roof measures 5 metres wide and 2 metres high. What is the area of the roof that is painted green?

**2.** If the height of the roof was increased to 4m what would the area be?




**3.** If the width of the roof was increased to 7m what would the area be?

**Activity C**




**This design measures 12 cm x 12 cm . The total area of the pattern is 144 cm$^2$. Find the area of each shaded triangle.**

# 3b Area Problems

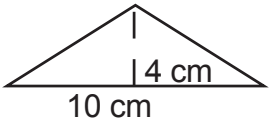
**Remember**

$\frac{1}{2}$ b x h gives the area of a triangle. Area is measured in units squared e.g. $cm^2$ or $m^2$

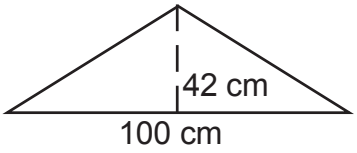
## Activity A

**Calculate the area of these triangles. Write your answers in your exercise book.**

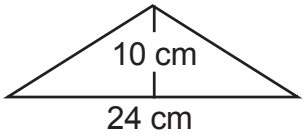
**1.**



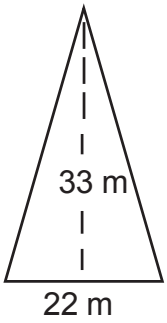

**2.**



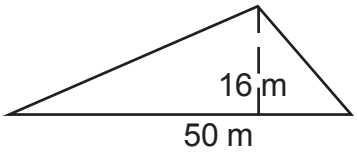

**3.**



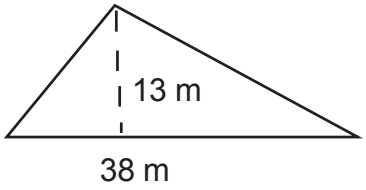

**4.**



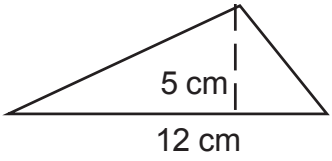

**5.**



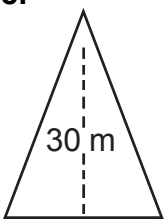

**6.**



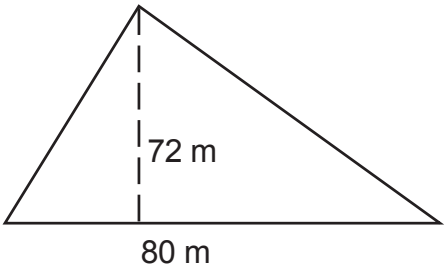

**7.**




**8.**

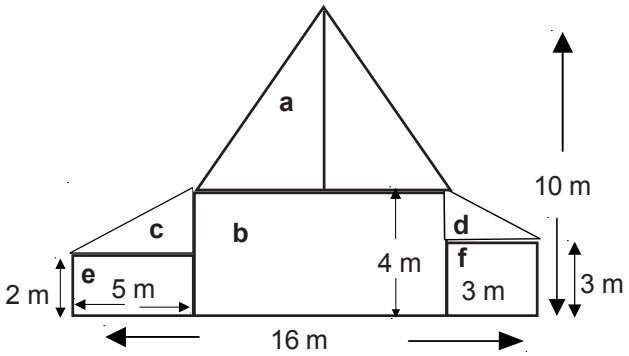



**9.**




## Activity B

1. Find the area of a triangle which has a base of 15 cm and a height of 10 cm.
2. If the height of the triangle is 12 m and its base is 30 m what is its area?
3. Calculate the area of each part of the diagram below (a - f).



# Unit 10

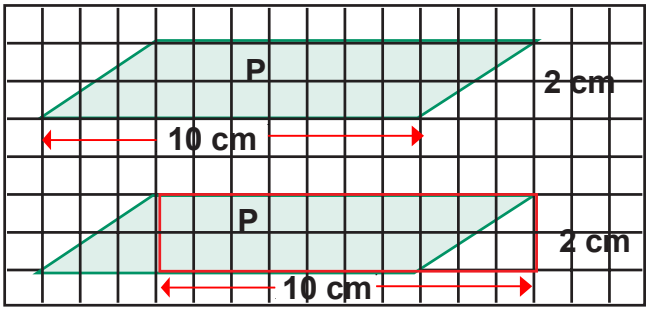
**Activity C**

**Draw and label diagrams in your exercise book to show each of the following triangles.**

1. A right angled triangle with the area of 24 $m^2$.
2. An isoscelese triangle with the area of 60 $cm^2$.
3. A triangle with the area of 12 $m^2$ (with three different angles).

## 3d

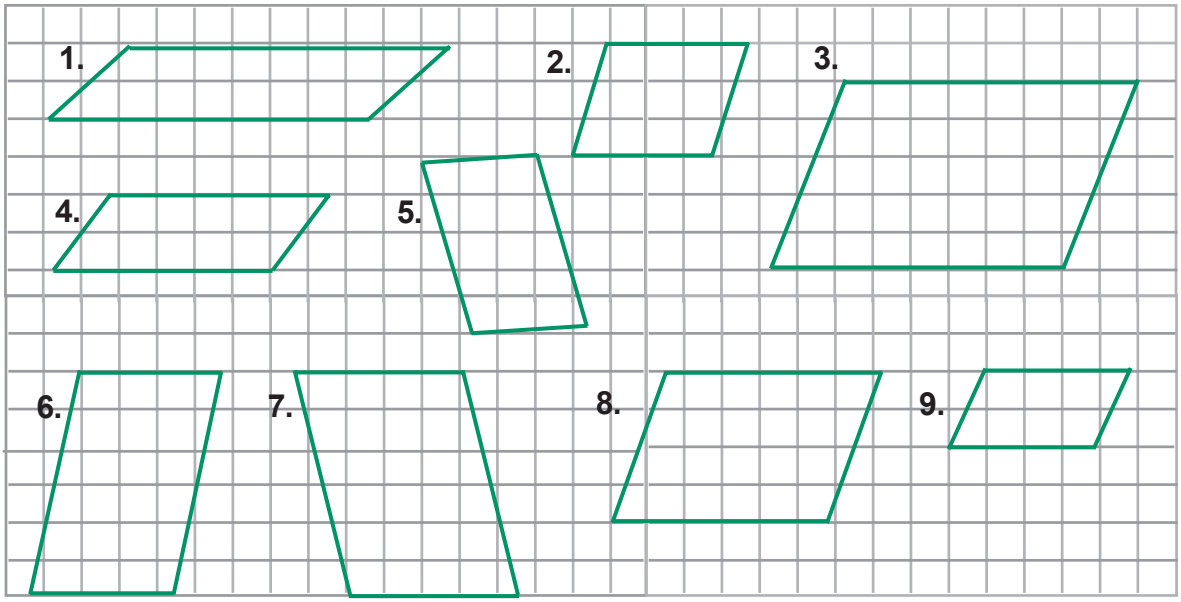
**Example**




**Remember!**

To find the area of a parallelogram, multiply the length of the base by the height.

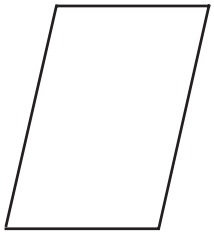
**Activity A**
**Find the area of these parallelograms.**
**Each square represents 1 cm. The units of all your answers will be $cm^2$.**



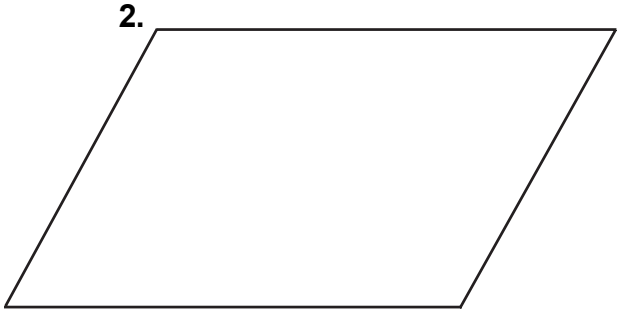
**Activity B**

**Measure these parallelograms and work out their area.**

**1.**

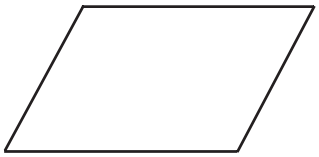


**2.**



**3.**

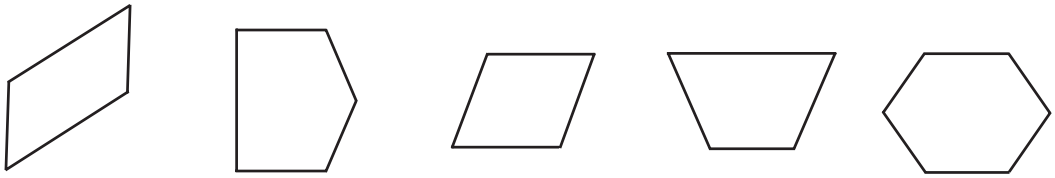
**4.**



## 4a Composite Shapes

**Activity A**

**Match each shape to its correct name. Sketch the shape and write the name in you exercise book.**



**a. pentagon** **b. hexagon** **c. rhombus** **d. parallelogram** **e. trapezium**

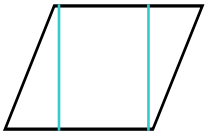
# Unit 10

### Activity B

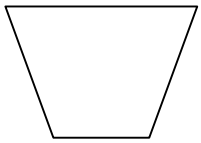
**Copy the following shapes into your exercise book. Draw lines to show how each shape can be divided up into squares or rectangles and triangles.**

**The first one has been done for you.**

**1.**

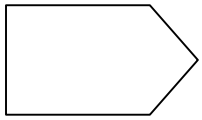


**2.**

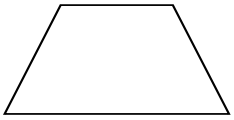


**3.**

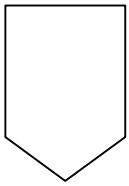
**4.**



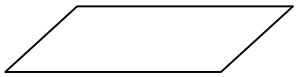
**5.**



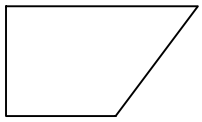
**6.**



**7.**



**8.**



### Activity C

**Sketch the following shapes in your exercise book. Each shape should be made up of a rectangle and two triangles.**

1. **A rhombus**
2. **A hexagon**
3. **A trapezium**
4. **A parallelogram**

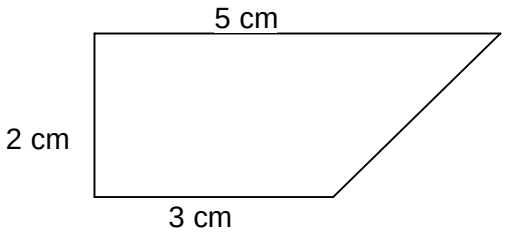
# 4b Finding the Area of Composite Shapes

**Remember!**
First divide the shape into rectangles and triangles.

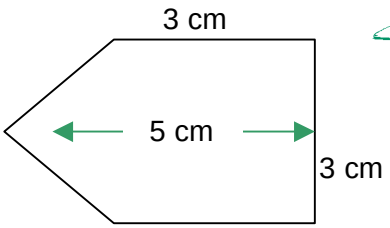
## Activity A

**Calculate the area of each shape. Write your working as well as your answers in your exercise book.**

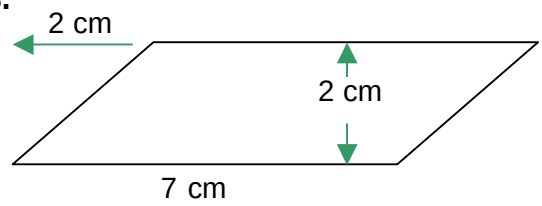
**1.**



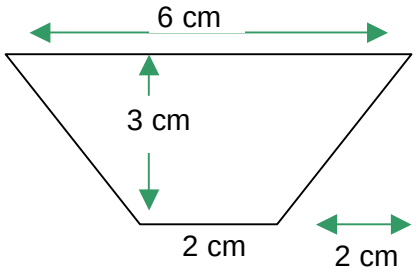

**2.**




**3.**




**4.**




## Activity B

**Use your ruler to sketch each shape in your exercise book and then calculate its area.**

**1.** A pentagon made up of a 3 cm x 3 cm square and a triangle with a base of 3 cm and a height of 3 cm.

**2.** A parallelogram made up of a rectangle measuring 5 cm x 2 cm and two triangles each with a base of 2 cm and a height of 2 cm.

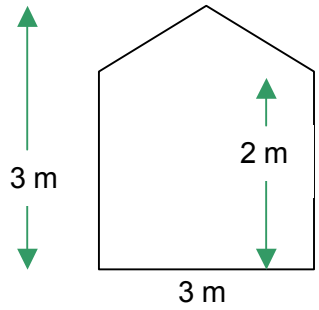
**3.** A trapezium made up of a rectangle measuring 2 cm x 3 cm and two triangles each with a base of 3 cm and a height of 2 cm

# Unit 10

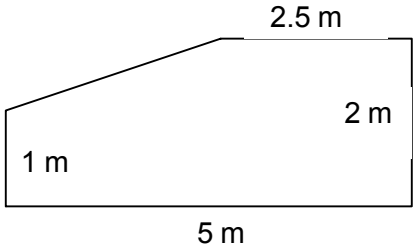
### Activity C

**Calculate the area of each building. Write your working as well as your answers in your exercise book.**

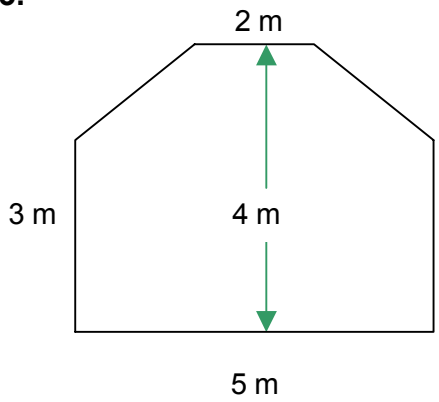
**1.**



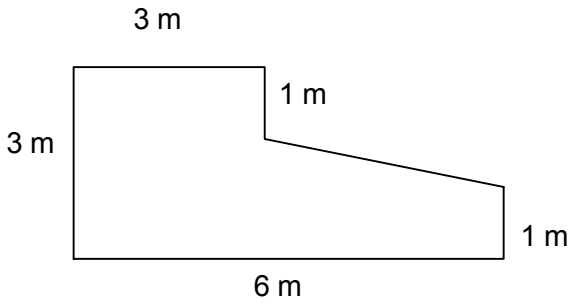

**2.**




**3.**



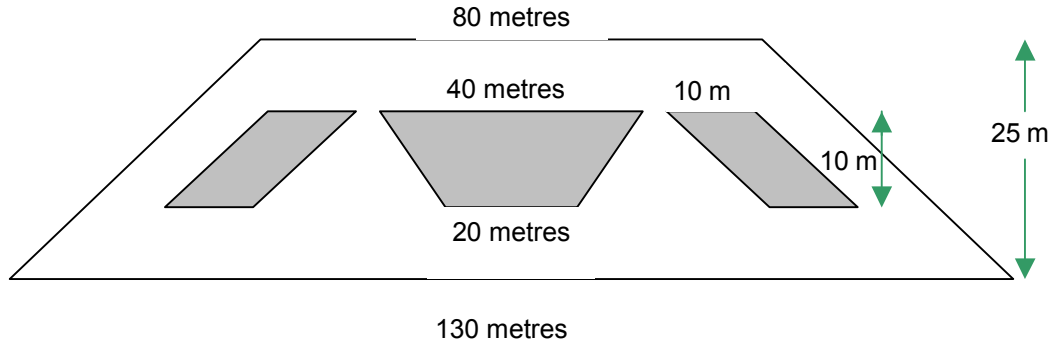

**4.**




## 4c Area Problems

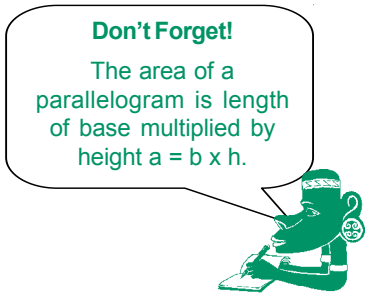
### Activity A

**Look at the diagram. It shows the plan of a public park. The shaded areas are planted with flowers and the white area is grass.**



**Calculate the area of the grass, by following these steps.**

1. First calculate the area of the whole shape.
2. Next calculate the area of each flowerbed.
3. Next take the area of the flower beds away from the total area to find the grass area.
4. Write your answer in $m^2$.



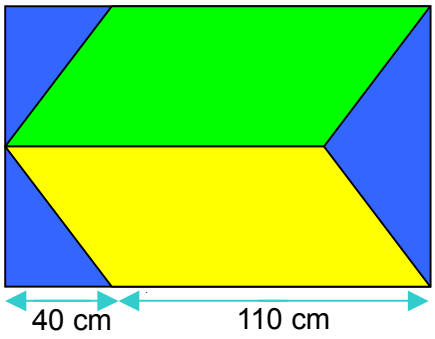

**Activity B**

**The picture shows the flag of a foreign country.**

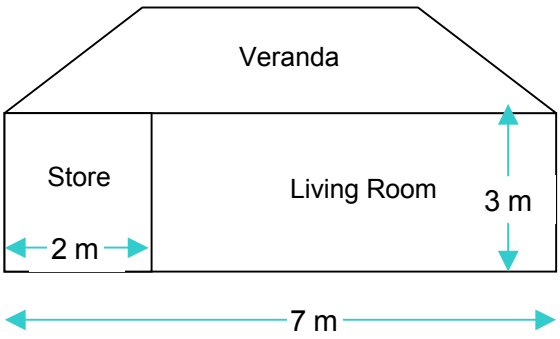
**The flag is 1m wide and 1.5 m long.**

**Calculate the following, give your answers in $cm^2$**

1. The area of the yellow section
2. The total area of the blue sections
3. The area of the green section
4. The area of the whole flag




**Activity C**




1. **The diagram shows the floor plan of a house and veranda.The area of the veranda is 10 $m^2$. Calculate the** width **of the veranda.**

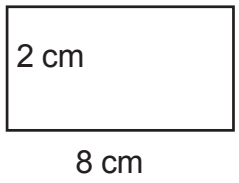
2. **The length of a rectangular garden is twice its width and its area is 50 $m^2$. What is the length and width?**
3. **A mat measures 65 cm in width and has an area of 7,800 $cm^2$. Calculate the** length **of the mat.**

# Unit 10

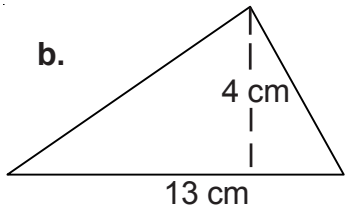
## Check Up Page

**1. Find the area of each shape.**

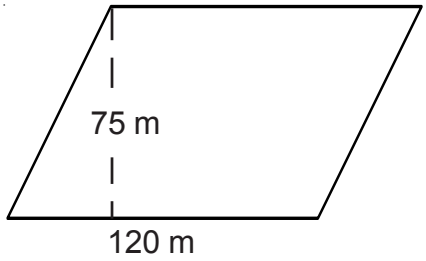
**a.**




**b.**

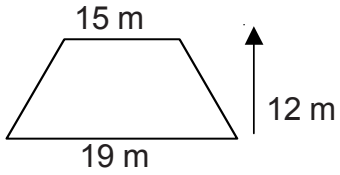



**c.**

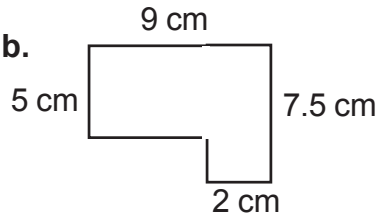



**2. Find the area of each shape.**

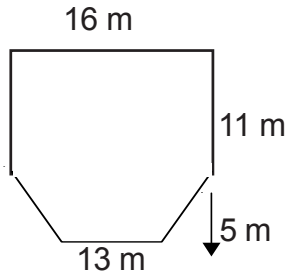
**a.**



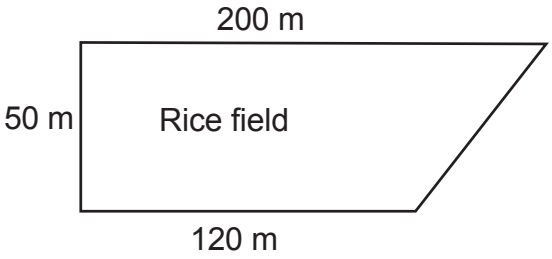

**b.**




**c.**

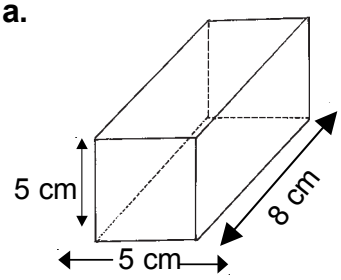



**3. A farmer planted his rice field. If he can plant 2,000 square metres per day, how many days did it take him to complete planting the field?**

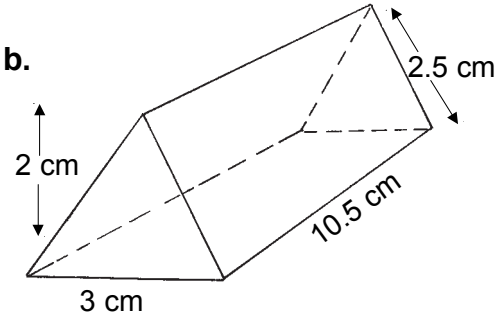



**4. Find the surface area of each shape.**

**a.**




**b.**




# Nguzu Nguzu Mathematics

## Standard Five