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**HAWKER BROWNLOW**  
**E D U C A T I O N**

## ★ TO THE TEACHER ★

### Book 3, CSF Level 3

One of the most important aspects of teaching maths is communication. Writing, speaking, explaining or drawing can help your students internalise what they have learned and clarify their own thinking. Communication can also act as a powerful tool for you to assess the thinking of your students.

Your students should be encouraged to use strategies that foster the art of communication. We have incorporated a variety of strategies for your students to utilise in *Maths the Write Way*. These include asking the students to:

- Write their own word problems
- Communicate orally
- Identify key words and explain their importance
- Create their own games, puzzles, poems
- Summarise their work
- Investigate other ways to solve a problem
- Make predictions and draw conclusions
- Work with a group to share ideas and solve problems.

*Maths the Write Way* contains seven lessons. Each lesson includes four Investigations, two Extensions and four Assessments. Two Assessments are with open-ended responses whilst two utilise multiple choice format

Vocabulary activities, following Lessons 3 and 7, emphasise the importance of mathematical language. Two mini-reviews and a Final Review will help you to assess the work of your students.

In *Maths the Write Way*, we have provided a forum for you to instruct as well as assess. We encourage students to look for a variety of ways to solve problems. The process – not just the solution – must be emphasised. Working and sharing ideas in co-operative groups will enhance understanding and communication.

The Teacher Guide includes:

- Listing of lesson objectives and necessary materials
- Key vocabulary and concepts for the lesson
- Suggestions for discussing key mathematical concepts
- Sample solutions to all Investigations and Assessments
- Suggested strategies for solving problems
- Reproducible pages for use with selected activities

The program will with a variety of instructional approaches. You may want to complete some activities with the whole class. Others may be more appropriate for individuals or small groups. Depending on your students' reading abilities, you may want to read aloud the directions for each activity before assigning it. Most investigations end with an oral explanation and/or writing activity. If students are not ready to write, you may want to record their answers on an experience chart. The oral explanations and writing activity are crucial to the Investigations, as they help students clarify thinking.

We are sure you will find *Maths the Write Way* a valuable resource for supplementing and enhancing your mathematics instructional program.

**★ INVESTIGATION 1 ★**

**Nearest Ten**

Cheetah	147	150
Jaguar	153	150
Lynx	119	120
Polar bear	247	250
Red fox	78	80

**Step 2:** Using the chart above, write a general rule that will show how to round any number to the nearest ten.

**Hint:** Look at the ones digit in each number. Then look to see if the number is rounded up or down.

**Solution:**

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**Step 1:** Look at the inequality below.

$$\frac{1}{2} > \frac{1}{4}$$

**Step 2:** Write an explanation of why this inequality is true.

**★ INVESTIGATION 2 ★**

**Hint:** Drawing a picture can help you understand this problem.

**Solution:**

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## ★ EXTENSION ★

Look back at the chart in Investigation 1.  
Suppose that the length of an animal is 150 centimetres when rounded to the nearest ten.  
What are all the possible lengths that this animal could be? Write an explanation of how you found your answer.

**Hint:** Think about all the numbers that round up and down to 150 when rounding to the nearest ten.

**Solution:**

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### Assessment 1

Which sign makes the sentence true?

$$\frac{1}{3} \square \frac{1}{2}$$

- A. >
- B. <
- C. =
- D. ×

### Assessment 2

List all the numbers in the box that will equal 80 when rounded to the nearest ten. Write an explanation of why your answer makes sense.

72	79	86
75	83	88

**Solution:**

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## Part B

### ★ INVESTIGATION 3 ★

**Step 1:** Study the number sentence below.

$$14 + \square = 19$$

**Step 2:** Write descriptions of two different ways to solve this problem.

**Hint:** Check to see that both ways make sense. Try to solve the problem using your descriptions.

**Solution:**

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### ★ INVESTIGATION 4 ★

A teacher wrote these problems on the board and then drew the pictures.

$$3 \times 4 = 12 \quad 12 \div 3 = 4$$



$$4 \times 3 = 12 \quad 12 \div 4 = 3$$



**Step 1:** Study the facts and the drawings.

**Step 2:** Imagine that you are the teacher. Write about how you would explain that the drawings show the facts.

**Hint:** Try your explanation with another student to see if it makes sense.

**Solution:**

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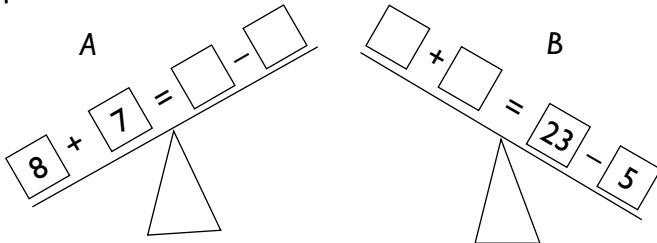
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★ **EXTENSION** ★

**Step 1:** Each of the scales below is not balanced. Balance each scale by finding the missing numbers. There is more than one possible answer for each scale.



**Step 2:** Write an explanation of how you found your answers.

**Hint:** If a scale is balanced, what is true about each side?

**Solution:**

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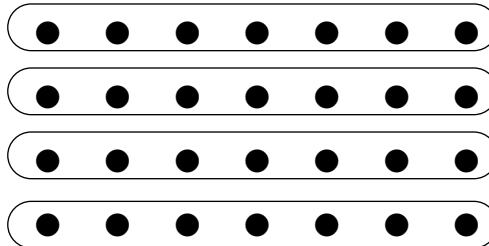
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**Assessment 1**

The picture below shows which multiplication sentence?



- A.  $5 \times 7 = 35$       B.  $7 \times 7 = 49$       C.  $4 \times 6 = 24$       D.  $4 \times 7 = 28$

**Assessment 2**

Find the missing number. List the steps you used to find your answer.

$$32 - 18 + \square = 21$$

**Solution:**

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