



Investigation 2 Show time

Congratulations, you have won two free passes to the show!

You and a friend have a total of \$60 to make it a fun-filled day by buying show bags, ride tickets and food.

Your task is to choose how best to spend your money.



☒ Topics

Before you start the Investigation you need to know...

- | | |
|--|---|
| <input type="checkbox"/> NA9 Addition facts p48 | <input type="checkbox"/> NA14 Subtraction to two digits (with regrouping)..... p58 |
| <input type="checkbox"/> NA10 Addition to two digits (with regrouping)..... p50 | <input type="checkbox"/> NA27 Do I have enough money?..... p84 |
| <input type="checkbox"/> NA12 Subtraction facts..... p54 | <input type="checkbox"/> MG7 Clocks – quarter past, half past.....p104 |
| <input type="checkbox"/> NA13 Subtraction to two digits (no regrouping) p56 | <input type="checkbox"/> MG8 Clocks – quarter past, quarter top106 |

Understanding the Investigation

I Read and discuss.

Read and discuss the Investigation introduction above.
What is the Investigation asking you to do?

Make sure you understand the meanings of: *best value, budget, change, expensive, final, total* and *wish list*.

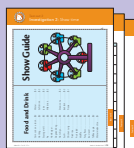
Teacher note

- Comprehensive lesson notes, suggestions and resources are available in *iMaths 2 Teacher Book*.
- The BLMs and Tear-outs for this Investigation can be downloaded from www.imathsteachers.com.au.

Materials



Internet access



Tear-outs 2–5



BLMs 2.1–2.2



Play money



A3 paper



Calculator

2 It's show time.

Discuss what you know about your local show.

Read and discuss **Tear-out 2, Show guide** (pp175–176), and the *Program of events* in the box on the right.

imathskids.com.au



Go to **imathskids.com.au** –

The Investigation 2 area contains the websites, BLMs and Tear-outs that you need to complete this Investigation.

Using maths

3 Plan your day at the show.

In pairs, choose your favourite show bags, rides, food and events.

Use **Tear-out 3, My plan for a day at the show** (p177), to list the time of each event you want to attend. Then, list the times you will buy your show bags, go on rides and eat.

This will be the plan for your day at the show.

4 Make a wish list.

Record the prices of the show bags, ride tickets and food you want to buy on **Tear-out 4, Wish list** (p179).

Find the total cost of your wish list.

5 Plan a \$60 budget.

Use notes and coins to show ways to make \$60. How many combinations can you find?

Look at your wish list. Will all those items cost more than \$60 or less than \$60?

Use **Tear-out 5** (p181) to create a final budget. Try to spend as close to \$60 as you can.

Reasoning and reporting

6 Value for money.

Present and describe the plan for your day at the show, your wish list and your final budget.

How much did you spend? Was there any change? How much?

Justify your final choices.

Program of events

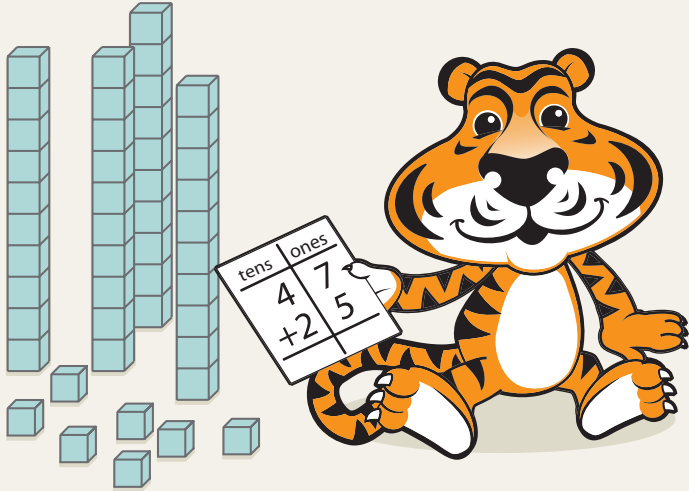
8:15	<ul style="list-style-type: none"> Gates open
8:30	<ul style="list-style-type: none"> Wood chopping Pet parade
9:45	<ul style="list-style-type: none"> African music Sheep shearing Puppet show
11:15	<ul style="list-style-type: none"> Talent quest Sand sculpture competition Championship dog show
1:30	<ul style="list-style-type: none"> Didgeridoo workshop Doll making Marvin's Magic Show
3:45	<ul style="list-style-type: none"> Monster trucks and motor cross School bands Spear and boomerang throwing competition
6:30	<ul style="list-style-type: none"> Grand parade Fireworks
All day events	<ul style="list-style-type: none"> Show jumping Pet nursery Art and craft display Face painting Camel riding Car models display

Inquiry

Use your show guide or a show website to create your own, value for money show bag. Justify your choices.

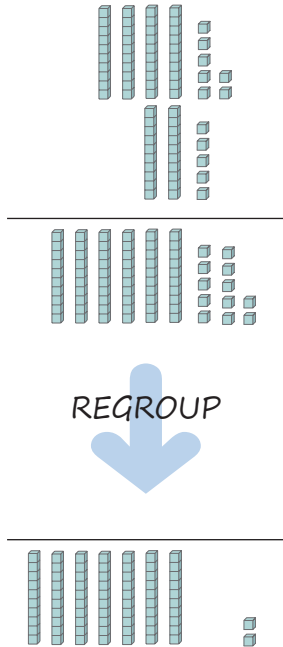


NA10 Addition to two digits (with regrouping)



When you are adding **two-digit numbers** you sometimes find that there are enough **ones** to regroup as a **ten**. Add the ones first, then ask if there are enough ones to regroup as a ten. If the answer is **yes**, regroup 10 ones as 1 ten. Then add all the tens as usual. Here's how to add **47** and **25**.

We show:



We think or say:

4 tens and 7 ones
add 2 tens and 5 ones

6 tens and 12 ones

REGROUP

7 tens and 2 ones

We write:

tens	ones
4	7
+ 2	5
6	12

REGROUP

tens	ones
1	
4	7
+ 2	5
7	2

Try this

1 Add the ones and the tens, regrouping if needed.

a

tens	ones
2	6
+ 5	6
<div></div>	

b

tens	ones
5	2
+ 3	9
<div></div>	

c

	2	4
+	5	9
<div></div>		

d

	2	6
+	3	4
<div></div>		

e

	6	8
+	2	8
<div></div>		

What do you call a camel with three humps?



- 2 Complete each addition then find the answers in the shapes below and colour them in.
The first one has been done for you as an example.

a

tens	ones
3	8
+ 1	7
<hr/>	
5	5

b

tens	ones
4	9
+ 4	3
<hr/>	

c

tens	ones
1	6
+ 3	8
<hr/>	

d

tens	ones
6	5
+ 1	5
<hr/>	

e

2	9
+ 4	4
<hr/>	

f

2	4
+	8
<hr/>	

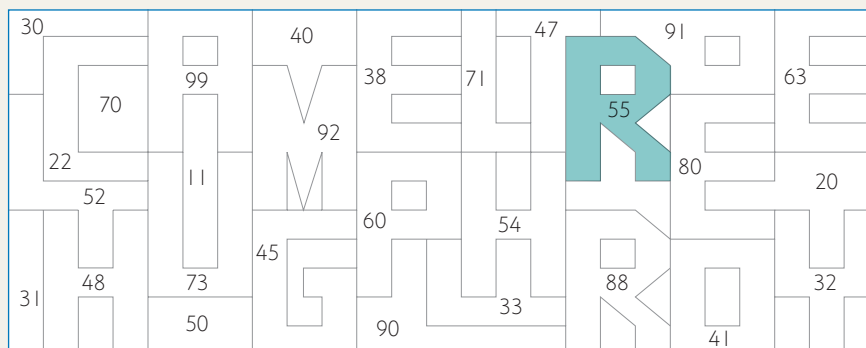
g

3	3
+ 2	7
<hr/>	

h

2	9
+ 1	9
<hr/>	

When you are sure that all your answers are correct, colour the word.



Problem solving task

When do you add? Some of these problems need addition. Read each problem carefully. Colour the ones that can be worked out using addition, then add to find the answer. Write your answers in the space provided in *iMaths 2 Tracker Book*.

- a** In my class there are 18 girls and 13 boys.
What is the total number of children in the class?
- b** There are 58 shells in my bucket and 44 in your bucket. How many do we have altogether?
- c** I was given 20 dollars for my birthday.
I spent 11 dollars. How much is left?
- d** If I join my card collection of 27 cards with your collection of 67 cards, how many will we have altogether?



Challenge

Totally totalled: What is the total of all eight answers in question 2?

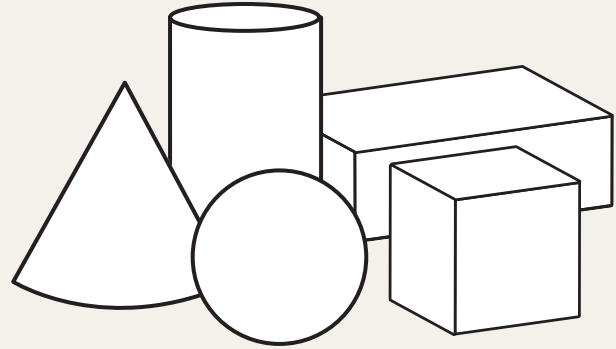


Problem solving strategies

6 Check for useful information



The **check for useful information** strategy is good to use when a problem has lots of extra information that you don't need. Try to find only the information that you actually need and ignore the rest.



Clues

- 1 I'll paint the cylinder blue.
- 2 Cubes have six faces.
- 3 Yellow paint for the cone.
- 4 The ball-shaped object will be red.
- 5 The rectangular prism will be orange.
- 6 Some 3D objects will roll.
- 7 Red apples are tasty.
- 8 Mix blue and yellow to make green paint.
- 9 The cube will be painted green.

Share this problem

Use the clues to work out which colours I am painting these 3D objects.

Discuss the solution

The useful clues are the ones that will help us find the answer. Four of the clues above do not help at all. Read each clue carefully and ask yourself, "Is this clue useful?" If not, cross it out.

Here are the five useful clues:

- 1 I'll paint the cylinder blue.
- 3 Yellow paint for the cone.
- 4 The ball-shaped object will be red.
- 5 The rectangular prism will be orange.
- 9 The cube will be painted green.

Here are the colours of the 3D objects:

cylinder – blue, cone – yellow, sphere – red, rectangular prism – orange, cube – green.

YOUR TURN

In which month is my birthday? Use the clues to work out the answer.

Use the **check for useful information** strategy to solve this problem.



Clues

- 1 My birthday month is after April.
- 2 I will turn 8 next birthday.
- 3 Christmas is in December.
- 4 There are more than 3 letters in my birthday month.
- 5 My birthday months begins with 'J'.
- 6 I'll blow out all the candles on my cake.
- 7 My birthday month is in winter.
- 8 My birthday month is not July.

1	Guess and check	6	Check for useful information
2	Make a table or chart	7	Find smaller parts of a big problem
3	Draw a picture or diagram	8	Make an organised list
4	Act out the problem	9	Solve a simpler problem
5	Find a pattern	10	Work backwards



Mental computation strategies

+ Addition strategies

- A Friendly chunks
- B Friendly pairs
- C Add ten
- D Friendly and fix
- E Further facts

A Friendly chunks

Question

Strategy: Build to ten.

Answer

1 $8 + 6$	<p>8 + 6 = 14</p>	14
2 $55 + 7$	<p>55 → 60 → 62</p>	62
3 $126 + 8$	<p>126 → 130 → 134</p>	134

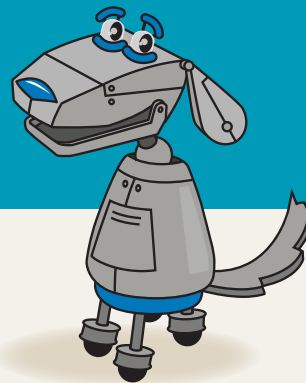
B Friendly pairs

Question

Strategy: Find pairs of numbers that add to 10.

Answer

1 $8 + 7 + 3$	$8 + 7 + 3$ 	18
2 $9 + 4 + 1$	$9 + 4 + 1$ 	14
3 $2 + 5 + 8 + 5$	$2 + 5 + 8 + 5$ 	20



C Add ten

Question

Strategy: To add 10, change the digit in the tens place.

Answer

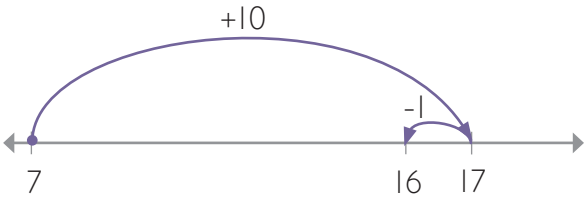
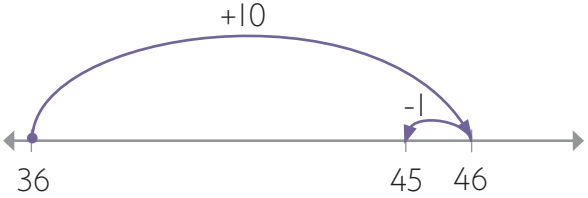
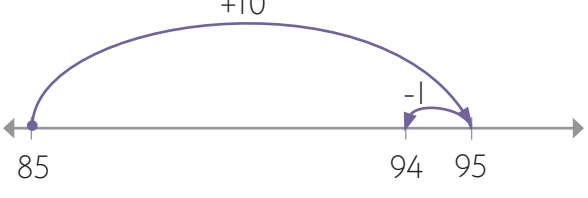
1 $57 + 10$	$\begin{array}{c c} \text{tens} & \text{ones} \\ \hline 5 & 7 \end{array} + 10 = \begin{array}{c c} \text{tens} & \text{ones} \\ \hline 6 & 7 \end{array}$	67
2 $31 + 10$	$31 + 10 = 41$	41
3 $82 + 10$	$82 + 10 = 92$	92

D Friendly and fix

Question

Strategy: To add 9, change to add 10, then fix by taking 1.

Answer

1 $7 + 9$	 $7 + 10 = 17, -1$ <p>(friendly) (fix)</p>	16
2 $36 + 9$	 $36 + 10 = 46, -1$ <p>(friendly) (fix)</p>	45
3 $85 + 9$	 $85 + 10 = 95, -1$ <p>(friendly) (fix)</p>	94