

GO

MATHS

Teacher Sourcebook

Sample Unit



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Developing Written Methods for Addition — Introducing the Algorithm

Content Outcomes

NS 2.2 Uses mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers

Mathematical Background

There are many situations where students (and adults) are not able to add numbers mentally. In these circumstances, they need to be prepared to use a calculator or paper and pencil. In this unit, students are introduced to methods they can use to add in more traditional, written formats. The first examples are easy to do mentally, but the students are encouraged to record their thinking in a vertical arrangement. The formal written algorithm is introduced as a tool which may be used when problems are too difficult to solve mentally. Over several lessons, students work with addition examples that have been carefully selected so that regrouping across a place occurs progressively (i.e. across the tens and then across the hundreds). No preferred method is specified in the lessons and the student journal pages are left open so that a variety of methods may be used. However, students are encouraged to use mental computation as the strategy of first choice.

Lesson Overview

- 23.1** Developing the Need for Written Addition
- 23.2** Introducing the Addition Algorithm — No Regrouping
- 23.3** Developing the Algorithm — Regrouping Across Tens
- 23.4** Developing the Algorithm — Regrouping Across Hundreds
- 23.5** Using the Algorithm — Two or More Addends

Investigation: What is the best route to take to get from Moree to Bendemeer by road?

Language

Students will use and develop the following language:

add, add on, addition, mental strategy, algorithm, bridging, column, two-digit, three-digit, place value

Sequence of related units for Stage 2

Stage 2A								Stage 2B						
NS 2.2	2	6	20	21	23	24	28	29	34	36	38	53	55	60

Content Indicators

On completion of this unit, the students should be able to

NS 2.2

- A** decide the best method for calculating the answer to an addition problem
- B** solve addition problems involving three-digit numbers with no bridging, e.g. $324 + 245$
- C** use an efficient written method such as a formal algorithm for adding three-digit numbers with bridging across a ten, e.g. $415 + 278$
- D** use an efficient written method such as a formal algorithm for adding three-digit numbers with bridging across a hundred, e.g. $394 + 163$
- E** use an efficient written method such as a formal algorithm for adding up to three two- or three-digit numbers with bridging in more than one place, e.g. $46 + 35 + 57$

Techniques

The following tools can be used to assess the content indicators.

1. Investigation **A B C D E**

The Investigation is located after Lesson 5.

2. Written Test **C D E**

Allow time for the students to complete the written test for Unit 23. See page 23 of the *GO Check* assessment book. Consider administering the test one or two weeks after completion of the unit.

3. Diagnostic Probe **A B**

Show the student the following number sentences one at a time and ask her or him to solve them:

$$253 + 316 = \underline{\quad}$$

$$524 + 175 = \underline{\quad}$$

$$571 + 218 = \underline{\quad}$$

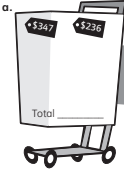
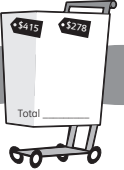
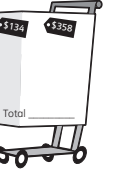
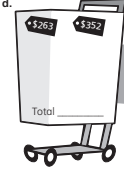

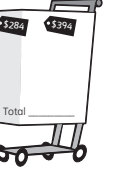
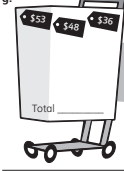
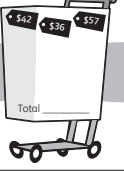
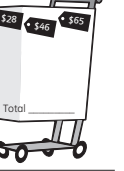
$$352 + 426 = \underline{\quad}$$

If the student cannot solve the problem mentally, allow him or her to demonstrate a written method.

GO Check, page 23

UNIT 23 Developing Written Methods for Addition — Introducing the Algorithm

Add the prices. Record the thinking you use. Then write the answer.

<p>C → a. </p>	<p>b. </p>	<p>c. </p>
<p>D → d. </p>	<p>e. </p>	<p>f. </p>
<p>E → g. </p>	<p>h. </p>	<p>i. </p>

Date _____ NS 2.2 *GO Check* Stage 2A, Unit 23 23

Working Mathematically

The processes related to the working mathematically outcomes are embedded in all *GO Maths* activities. The following pointers should help you assess the students' demonstration of these processes.

Questioning (WMS 2.1)	<i>Listen</i> to the questions students pose when they are faced with an addition problem. Is their first reaction to ask if they can solve it mentally?
Applying Strategies (WMS 2.2)	<i>Observe</i> the strategies students are using. Do they favour mental strategies? Do their mental strategies demonstrate an understanding of hundreds, tens and ones?
Communicating (WMS 2.3)	<i>Note</i> the way students explain the mental strategies they are using. Is the language appropriate? Are the steps clear, logical and ordered?
Reasoning (WMS 2.4)	<i>Listen</i> as students explain what makes the strategies they are using easier. Does the explanation indicate an understanding of hundreds, tens and ones?
Reflecting (WMS 2.5)	<i>Listen</i> as students explain why mental computation should be the strategy of first choice (easier to do, easier to understand, quicker, etc.).

Recording

Content

Record achievement of the content indicators in the box(es) for this unit alongside the relevant outcome(s) in the Progress Record. This can be found on page v of each student's *GO Check* assessment book. Alternatively, enter results into the *GO Chart Electronic Progress Record*.

Stage 2A								Stage 2B						
NS 2.2	2	6	20	21	23	24	28	29	34	36	38	53	55	60

Working Mathematically

Record significant observations in the Progress Record on page vi of each student's *GO Check* assessment book. Alternatively, enter more detailed notes into the *GO Chart Electronic Progress Record*.

Intervention

For students who need extra assistance, revisit the relevant parts of this unit or check for suitable activities from the Related Classroom Resources section in the back of this sourcebook.

23.1

Developing the Need for Written Addition

Materials

- *GO Maths* student journal, page 106
- 1 regular die

Optional

- *Fundamentals (Ages 9–10)*, pages 24–27

Daily Computation Practice

Write the 17 number sentences for the set of sixes multiplication facts in random order on the board. Point to facts and have the students write the answers.

Consolidation

Have the students play 'Total Two' in *Fundamentals (Ages 9–10)*, pages 24–27.

In this lesson, students identify pairs of three-digit numbers that are not easy to add mentally. (*Note:* Kilometres are used as a context to compare numbers. This unit of length is not assessed until a later stage.)

Daily Number Sense

Draw these three blank price tags on the board. Say: *I spent a total of \$450.*

The prices were all different. What could the prices have been? Invite individuals to suggest amounts and write the prices on the board. Encourage the students to suggest amounts that are not multiples of \$5.



Activity

1. Invite an individual to roll the die six times. Write each of the digits rolled on the board. Then say: *Use these digits to make two three-digit numbers you can easily add in your head.* Have the students work independently to write several pairs of numbers using the six digits. Then invite volunteers to write number sentences on the board and describe the steps they used to add mentally. For example, if the digits were 1, 3, 4, 4, 5 and 6, the students might suggest $\$634 + \$154 = \underline{\quad}$ and work out the answer by adding 100 to 634, then 50 to 734 and finally 4 to 784. Alternatively, they could add the hundreds, then the tens and finally the ones.
2. Ask: *What pairs of numbers can you make from these digits that are not as easy to add in your head?* Repeat the steps above to discuss possible combinations such as $\$541 + \$463 = \underline{\quad}$. Explain that in the next few lessons they will learn some written steps to add using paper and pencil. There will be some students who can complete the calculation. Encourage them to write or draw how they thought on separate pieces of paper.
3. Have the students work independently to complete page 106 of the *GO Maths* student journal.

Reflection

1. Encourage the students who do not frequently contribute to the discussion to first describe those pairs of numbers on page 106 of the *GO Maths* student journal they could add mentally. Ask them to explain what made them easy to add.
2. Ask confident students to describe those pairs of numbers that were more difficult to add mentally. Explain to the class that there will be many numbers they cannot add in their heads and there are other tools, such as calculators and paper and pencil, that can help.

Introducing the Addition Algorithm

— No Regrouping

In this lesson, the students are introduced to vertically recording addition examples to add. The numbers do not involve bridging. *Note:* Students will use these vertical methods to record the steps they are using mentally — not to solve the problem using place-value columns, as they will with the formal written algorithm in the next lesson.

Daily Number Sense

Repeat the Daily Number Sense discussion from the previous lesson for three items that total \$550. Specify that two of the items cost just a little less than \$200. Have the students estimate the cost of the third item and describe how they thought. Then ask individuals to suggest possible prices for the two items and work out the cost of the third item.

Activity

1. Draw price tags for **\$324** and **\$255** on the board. Ask: *What is the total you will pay for these two amounts? How do you know?* Invite two or three volunteers to describe their thinking. Demonstrate how they could record their thinking in vertical formats such as the examples shown below.

$\begin{array}{r} 324 \\ + 200 \\ \hline 524 \\ + 50 \\ \hline 574 \\ + 5 \\ \hline \$579 \end{array}$	$\begin{array}{r} 324 \\ + 5 \\ \hline 329 \\ + 50 \\ \hline 379 \\ + 200 \\ \hline \$579 \end{array}$	$\begin{array}{r} 324 \\ + 255 \\ \hline 500 \\ 70 \\ + 9 \\ \hline \$579 \end{array}$
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2. Draw price tags for **\$632** and **\$153** on the board and have the students independently work out the answer *and* write how they thought. Encourage students who work quickly to think of a different way to show their thinking (e.g. drawing jumps on a number line). Invite individuals to draw pictures or record steps on the board to show how they thought.
3. Repeat Step 2 for **\$345** and **\$624**.
4. Have the students work independently to complete page 107 of the *GO Maths* student journal. Encourage them to record the thinking they use in a vertical format.

Reflection

Discuss the students' answers to page 107 of the *GO Maths* student journal. Invite individuals to write on the board the steps they used to record their thinking in a vertical format. Remind them that they do not always need to record the steps if they can add mentally.

Materials

- *GO Maths* student journal, page 107
- *GO Figure* computation practice book, page 45

Optional

- *Fundamentals (Ages 9–10)*, pages 16–19

Daily Computation Practice

Have the students work as quickly as possible to complete page 45 of the *GO Figure* computation practice book.

Consolidation

Have the students play 'On Target' in *Fundamentals (Ages 9–10)*, pages 16–19.

23.3

Developing the Algorithm — Regrouping Across Tens

Materials

- *GO Maths* student journal, page 108

Optional

- *Fundamentals (Ages 9–10)*, pages 16–19

Daily Computation Practice

On the board, write approximately half of the sixes and nines multiplication number facts. Have the students copy and complete each fact and then write the turnaround.

Consolidation

Have the students play 'On Target Again' in *Fundamentals (Ages 9–10)*, pages 16–19.

In this lesson, the students use a vertical format to add numbers where the total for numbers in the ones place is greater than ten. The formal written algorithm is introduced for solving problems which are too difficult to solve mentally.

Daily Number Sense

Repeat the Daily Number Sense discussion from the previous lesson for three items that total \$675. Specify that two of the items cost just a little less than \$300.

Activity

1. Draw price tags for **\$239** and **\$229** on the board. Ask: *What is the total you will pay for these two amounts? How do you know?* Invite two or three volunteers to describe the thinking they could use to work out the answer. Encourage them to use mental methods, but record their thinking in vertical formats such as the examples shown on the right.

$$\begin{array}{r} 239 \\ + 229 \\ \hline 400 \\ 50 \\ + 18 \\ \hline \$468 \end{array}$$

$$\begin{array}{r} 239 \\ + 229 \\ \hline 18 \\ 50 \\ + 400 \\ \hline \$468 \end{array}$$
2. Review the example from Step 1. Ask: *What happens when we add the ones? (We get 18.)* Draw students' attention to the 18 in the vertical formats shown above. *Where could we record the extra ten that we get?* Show the students how this is written (see the example on the right) using the term 'algorithm' and explaining that this is a tool used for solving problems which are too difficult to solve mentally. Complete the algorithm and leave the example on the board.

$$\begin{array}{r} 239 \\ + 229 \\ \hline 18 \\ 50 \\ + 400 \\ \hline \$468 \end{array}$$
3. Draw price tags for **\$317** and **\$146** on the board. Have the students work out the answer mentally and write how they thought (do not include the algorithm). Invite individuals to record steps in vertical form on the board to show how they thought then have a confident student demonstrate how the problem could be solved using the formal written algorithm — referring to the previous algorithm if necessary. Repeat for **\$136** and **\$348**.
4. Have the students work independently to complete page 108 of the *GO Maths* student journal. For each problem, encourage them to write the two numbers vertically. They can then use a strategy of their choice to find the answers. Encourage them to use mental strategies in preference to the algorithm if they can.

Reflection

Discuss the students' answers to page 108 of the *GO Maths* student journal. Ask individuals to identify those examples they could add mentally and those for which they needed to write out some of the steps or use the algorithm. For those who added mentally but recorded some steps, invite volunteers to write the steps on the board to show how they added. Confident individuals could describe any short cuts such as those shown above. Invite students who used the algorithm to demonstrate their working on the board. Stress that the algorithm should only be used when problems are too difficult to solve mentally.

$$\begin{array}{r} 218 \\ + 245 \\ \hline 450 \\ + 13 \\ \hline \$463 \end{array}$$

$$\begin{array}{r} 218 \\ + 245 \\ \hline 13 \\ 450 \\ + 450 \\ \hline \$463 \end{array}$$

Developing the Algorithm — Regrouping Across Hundreds

23.4

The students use vertical formats — including the formal written algorithm — to add numbers where the total number in the tens place is greater than 100.

Daily Number Sense

Repeat the Daily Number Sense discussion from 23.2 for three items that total \$825. Specify that two of the items cost just a little less than \$300.

Activity

- On the board, draw the table shown on the right.

Ask: *What is the total number of people who came to the spring fair on Saturday?* Invite two

or three volunteers to describe the thinking they could use to work out the answer. Record their thinking in vertical formats (see the examples shown below).

	Adults	Children
Saturday	264	381
Sunday	172	245

$$\begin{array}{r} 264 \\ + 381 \\ \hline 500 \\ 140 \\ + \quad 5 \\ \hline 645 \end{array}$$

$$\begin{array}{r} 264 \\ + 381 \\ \hline \quad 5 \\ 140 \\ + 500 \\ \hline 645 \end{array}$$

- Remind students that the formal written algorithm can be used if a problem is too difficult to solve mentally. Using the example above, discuss the steps for adding the numbers and record the process working from right to left. Ask: *What happens when we add the tens? (We get 14 tens or 140). Where could we record the extra hundred that we get?* Show the students how this might be written (see the example on the right). Continue the process to complete the algorithm and leave it on the board.
- Have the students work independently to find the total number of people who attended on Sunday, the total number of adults who attended on both days and the total number of children who attended on both days. Then invite individuals to record steps in vertical form on the board to show how they solved the problems mentally. Invite a student to demonstrate how the problem could be solved using the algorithm.
- Have the students work independently to complete page 109 of the *GO Maths* student journal.

$$\begin{array}{r} \\ 264 \\ + 381 \\ \hline 645 \end{array}$$

Reflection

Discuss the students' answers to page 109 of the *GO Maths* student journal. Ask individuals to identify those examples they could add mentally, and those for which they needed to write out some of the steps or use the algorithm. Invite volunteers who added mentally then students who used the algorithm, to demonstrate their working on the board. Reiterate that the algorithm should only be used when problems are too difficult to solve mentally.

Materials

- GO Maths* student journal, page 109

Optional

- Fundamentals (Ages 9–10)*, pages 16–19
- Fundamentals (Ages 9–10)*, pages 24–27

Daily Computation Practice

Repeat the previous Daily Computation Practice activity.

Consolidation

Have the students continue to play the games identified in the previous Consolidation activities.

23.5

Using the Algorithm — Two or More Addends

Materials

- *GO Maths* student journal, page 110
- *GO Figure* computation practice book, page 46

Daily Computation Practice

Have the students work as quickly as possible to complete page 46 of the *GO Figure* computation practice book. If possible, they should record the time they take to complete the page.

In this lesson, students use strategies of their choice to add two or more numbers that might involve two- or three-digit numbers. Some combinations involve bridging across both the tens and hundreds.

Daily Number Sense

Repeat the Daily Number Sense discussion from 23.2 for three items that total \$700. Specify that two of the items cost about \$250.

Activity

1. On the board, draw the table shown on the right. Ask: *What is the total number of people who came to the spring fair on Friday?* Work as a class to record the steps to add the three numbers.

	Adults	Students 6–16 years	Children 0–5 years
Friday	146	113	28
Saturday	235	142	81
Sunday	183	124	64

Encourage them to begin in the ones place, as in the example below left, then demonstrate the formal written algorithm shown in the example on the right.

$$\begin{array}{r} 146 \\ 113 \\ + 28 \\ \hline 17 \\ 70 \\ + 200 \\ \hline 287 \end{array} \quad \text{or} \quad \begin{array}{r} 1 \\ 146 \\ 113 \\ + 28 \\ \hline 287 \end{array}$$

2. Use the same steps to discuss the total number of people who attended the fair on Saturday and on Sunday.
3. Have the students work independently to find the total numbers of adults, students and children who attended. Invite individuals to record steps in vertical form on the board to show how they thought, then have one student write the algorithm on the board.
4. Have the students work independently to complete page 110 of the *GO Maths* student journal. Encourage them to simply write the answers for any examples they can add mentally.

Reflection

Discuss the students' answers to page 110 of the *GO Maths* student journal. Ask volunteers to describe the thinking for those examples they could add mentally. Then invite individuals to write the steps on the board for the problems they had to solve using written methods including the algorithm. Remind students that mental computation should be the first strategy of choice.

Investigation

What is the best route to take to get from Moree to Bendemeer by road?

Think

- Where will we find out where these towns are in NSW?
- Is there more than one way to get from Moree to Bendemeer by road?
- What do you think could be meant by the 'best' route?
- Which idea of 'best' route should we work with given the information on our map?
- How do we read the distances on this map to help us work out the best route?

Show and Do

Make an overhead transparency of this page. Reveal and read the Investigation question with the students. Encourage them to ask questions to clarify the task. If necessary, discuss the 'Think' prompts.

Observe

Was the student able to

- describe a method that could be used to add the distances in the question?
- use an efficient written strategy to show his or her calculation method for the distances involved?

Reflect

Invite students to share the methods they used to complete the calculations. Make a list of the different strategies used. Compare the strategies used and the written methods used to support them. Use the calculations done by the students to answer the Investigation question about the 'best' route by focusing on the shortest distance. Depending on the detail of the maps available, the routes could be compared according to criteria other than distance (e.g. if maps show road surfaces, the best route may be to follow sealed roads even if the distance is greater). The students could also consider other best routes between other towns on the maps.

Student Journal, page 106

23.1

Developing the Need for Written Addition

Write the distance of each trip that you can add in your head.

a. Port Macquarie to Grafton	255 km
b. Newcastle to Urunga	386 km
c. Newcastle to Wollongong	245 km
d. Wollongong to Bega	362 km
e. Sydney to Batemans Bay	294 km
f. Grafton to Brisbane	324 km
g. Urunga to Ballina	243 km
h. Newcastle to Grafton	498 km
i. Port Macquarie to Ballina	386 km
j. Sydney to Bega	442 km
k. Sydney to Urunga	551 km
l. Sydney to Port Macquarie	408 km

Write some other trips for which you can work out the total distance in your head. Write the totals.

60 Maths Stage 2A Unit 23.1

Student Journal, page 107

23.2

Introducing the Addition Algorithm — No Regrouping

Add the two prices. Record your thinking if you need to. Then write the answer.

Write two three-digit numbers to complete this number sentence:
 $\square\square\square + \square\square\square = 879$

60 Maths Stage 2A Unit 23.2

Student Journal, page 108

23.3

Developing the Algorithm — Regrouping Across Tens

Backyard Sale

Calculate the cost of buying these pairs of items.

a. Blower and Chainsaw Total \$463	b. Hedgehog and Mower Total \$756	c. Shredder and Blower Total \$784
d. Mower and Line trimmer Total \$566	e. Chainsaw and Hedgehog Total \$545	f. Blower and Line trimmer Total \$382
g. Shredder and Mower Total \$968	h. Hedgehog and Blower Total \$572	i. Line trimmer and Hedgehog Total \$464

Choose any three items. Work out the total cost.

60 Maths Stage 2A Unit 23.3

Student Journal, page 109

23.4

Developing the Algorithm — Regrouping Across Hundreds

How People Travel to Darling Harbour in Sydney

	Train	Bus	Car	Ferry	Walking	Other
Saturday	361	485	571	250	361	82
Sunday	577	354	448	196	385	126

- Work out the total number of people who travelled to Darling Harbour on the weekend using each means of transport.

a. Train Total 938	b. Bus Total 839	c. Car Total 1019
d. Ferry Total 446	e. Walking Total 746	f. Other Total 208
- Work out how many people in total travelled by car and bus on Saturday and Sunday.

a. Saturday Total 1056	b. Sunday Total 802
---------------------------	------------------------

Imagine a total of 254 people travelled by taxi to Darling Harbour on the weekend. Write new answers for Question 2.

60 Maths Stage 2A Unit 23.4

* Answers will vary. This is one example.

Student Journal, page 110

23.5

Using the Algorithm — Two or More Addends

Year 3 Musical

	Day 1		Day 2		Day 3	
	Tickets sold	Money raised	Tickets sold	Money raised	Tickets sold	Money raised
Children	36	\$126	48	\$168	54	\$189
Adults	58	\$319	74	\$407	82	\$451

- Work out how many tickets were sold each day.

Day 1

*

Total 94

Day 2

*

Total 122

Day 3

*

Total 136
- Work out how much money was raised each day.

Day 1

*

Total \$ 445

Day 2

*

Total \$ 575

Day 3

*

Total \$ 640
- Work out the total number of children and the total number of adults who attended the musical.

Total children

*

Total 138

Total adults

*

Total 214

110 Work out the total money raised from children's tickets. GO Math! Stage 2A Unit 23.5

GO Figure, page 45

PUSS IN BOOTS

What is every cat's favourite nursery rhyme?
Figure out each of these and write the answer. Then write each letter above its matching answer in the grid.

a. $2 \times 6 = \underline{12}$ (R)

b. $0 \times 6 = \underline{0}$ (I)

c. $6 \times 4 = \underline{24}$ (D)

d. $7 \times 6 = \underline{42}$ (T)

e. $9 \times 6 = \underline{54}$ (S)

f. $6 \times 3 = \underline{18}$ (M)

g. $6 \times 5 = \underline{30}$ (N)

h. $10 \times 6 = \underline{60}$ (H)

i. $1 \times 6 = \underline{6}$ (B)

j. $6 \times 6 = \underline{36}$ (C)

k. $6 \times 8 = \underline{48}$ (E)

Some letters appear more than once.

T	H	R	E	E	B	L	I	N	D
42	60	12	48	48	6	54	0	30	24

M	I	C	E
18	0	36	48

$6 \times 7 = \underline{42}$

$4 \times 6 = \underline{24}$

$6 \times 6 = \underline{36}$

$6 \times 9 = \underline{54}$

$5 \times 6 = \underline{30}$

$3 \times 6 = \underline{18}$

$6 \times 2 = \underline{12}$

$8 \times 6 = \underline{48}$

$0 \times 6 = \underline{0}$

GO Figure Stage 2A Unit 23 MULTIPLICATION — 6s FACTS WITH TURNAROUNDS 45

GO Figure, page 46

RACE TRACK

For each of these, write the turnaround fact and then write the answer. The last two facts do not have a turnaround. Use the classroom clock to time yourself. The first one has been done for you.

Time Taken:

START $9 \times 1 = 9$ $7 \times 9 = 63$

$1 \times 9 = 9$ $9 \times 7 = 63$

$5 \times 6 = 30$ $6 \times 8 = 48$ $2 \times 6 = 12$

$6 \times 5 = 30$ $8 \times 6 = 48$ $6 \times 2 = 12$

$8 \times 9 = 72$ $6 \times 3 = 18$ $6 \times 0 = 0$

$9 \times 8 = 72$ $3 \times 6 = 18$ $0 \times 6 = 0$

$9 \times 2 = 18$ $4 \times 6 = 24$ $4 \times 9 = 36$

$2 \times 9 = 18$ $6 \times 4 = 24$ $9 \times 4 = 36$

$10 \times 9 = 90$ $6 \times 7 = 42$ $1 \times 6 = 6$

$9 \times 10 = 90$ $7 \times 6 = 42$ $6 \times 1 = 6$

$6 \times 9 = 54$ $9 \times 3 = 27$ $0 \times 9 = 0$

$9 \times 6 = 54$ $9 \times 3 = 27$ $9 \times 0 = 0$

$9 \times 5 = 45$ $6 \times 6 = 36$ $9 \times 9 = 81$

$5 \times 9 = 45$ $6 \times 6 = 36$ $9 \times 9 = 81$

FINISH

46 MULTIPLICATION — 6s AND 9s FACTS WITH TURNAROUNDS GO Figure Stage 2A Unit 23

GO Check, page 23

UNIT 23 Developing Written Methods for Addition — Introducing the Algorithm

Add the prices. Record the thinking you use. Then write the answer.

a. $\begin{array}{r} \$347 \\ + \$236 \\ \hline \end{array}$

*

Total \$583

b. $\begin{array}{r} \$415 \\ + \$278 \\ \hline \end{array}$

*

Total \$693

c. $\begin{array}{r} \$134 \\ + \$358 \\ \hline \end{array}$

*

Total \$492

d. $\begin{array}{r} \$263 \\ + \$352 \\ \hline \end{array}$

*

Total \$615

e. $\begin{array}{r} \$475 \\ + \$163 \\ \hline \end{array}$

*

Total \$638

f. $\begin{array}{r} \$284 \\ + \$394 \\ \hline \end{array}$

*

Total \$678

g. $\begin{array}{r} \$53 \\ + \$48 \\ + \$36 \\ \hline \end{array}$

*

Total \$137

h. $\begin{array}{r} \$42 \\ + \$36 \\ + \$57 \\ \hline \end{array}$

*

Total \$135

i. $\begin{array}{r} \$28 \\ + \$46 \\ + \$65 \\ \hline \end{array}$

*

Total \$139

Date _____ NS 2.2 GO Check Stage 2A, Unit 23 23

* Answers will vary. This is one example.

UNIT 23 Materials and Resources

23.1

Developing the Need for Written Addition

Materials

- *GO Maths* student journal, page 106
- 1 regular die

Optional

- *Fundamentals (Ages 9–10)*, pages 24–27

23.2

Introducing the Addition Algorithm — No Regrouping

Materials

- *GO Maths* student journal, page 107
- *GO Figure* computation practice book, page 45

Optional

- *Fundamentals (Ages 9–10)*, pages 16–19

23.3

Developing the Algorithm — Regrouping Across Tens

Materials

- *GO Maths* student journal, page 108

Optional

- *Fundamentals (Ages 9–10)*, pages 16–19

23.4

Developing the Algorithm — Regrouping Across Hundreds

Materials

- *GO Maths* student journal, page 109

Optional

- *Fundamentals (Ages 9–10)*, pages 16–19
- *Fundamentals (Ages 9–10)*, pages 24–27

23.5

Using the Algorithm — Two or More Addends

Materials

- *GO Maths* student journal, page 110
- *GO Figure* computation practice book, page 46

Investigation

Materials

- Overhead transparency of the Investigation question and 'Think' prompts
- Road maps of New South Wales