

GO

MATHS

Teacher Sourcebook

Sample Unit



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Using Written Computation Methods for Addition

UNIT 20

Content Outcomes

- NS 3.2** Selects and applies appropriate strategies for addition and subtraction with counting numbers of any size
- NS 3.4** Compares, orders and calculates with decimals, simple fractions and simple percentages

Mathematical Background

In this unit, students use written methods to add whole numbers up to four digits, dollars and cents, and decimal fractions with a varying number of decimal places. Although the focus is on written methods, students will be encouraged to use mental strategies wherever they can. Throughout all of the lessons, and particularly for money and decimal fractions, students should make estimates (a mental process) using the whole-number portion of each number. Addition using a lattice is suggested as one method to help students align numbers when they add vertically. Lattices have been used for centuries to assist the teaching of addition and multiplication. The students will find the methods both interesting and helpful.

Lesson Overview

- 20.1** Adding Two- and Three-Digit Numbers
- 20.2** Adding Four-Digit Whole Numbers
- 20.3** Adding Dollars and Cents
- 20.4** Adding Two-Decimal Fractions
- 20.5** Adding Three or More Decimal Fractions
- Investigation:** Is there a relationship between the lengths of sides of all triangles?

Language

Students will use and develop the following language:
lattice, decimal fraction, place value, estimate, perimeter, equilateral, isosceles, scalene

Sequence of related units for Stage 3

	Stage 3A							Stage 3B						
NS 3.2	3	10	20	25				35	42	51	57			
NS 3.4	2	3	7	10	11	12	17	35	37	39	40	42	43	49
	18	20	23	25	27	29	31	50	52	55	57	59	61	63

Content Indicators

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

NS 3.2

- A** use a written method to add two- and three-digit whole numbers, e.g. $576 + 85$
- B** use a written method to add three-digit whole numbers, e.g. $856 + 478$
- C** use a written method to add four-digit whole numbers, e.g. $4268 + 5043$

NS 3.4

- D** use a written method to add dollars and cents, e.g. $\$38.60 + \17.20
- E** use a written method to add two or three decimal fractions with unequal places to hundredths

Techniques

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

1. Investigation **A**

The Investigation is located after Lesson 5.

2. Written Test **A B C D E**

Allow time for the students to complete the written test for Unit 20. See page 20 of the *GO Check* assessment book. Consider administering the test one or two weeks after completion of the unit.

3. Diagnostic Probe **A B C**

Have the student estimate the answer to each of the number sentences below. Ask the student to explain how he or she made their estimate. Then ask the student to record and explain the steps he or she used to solve the following:

$$428 + 56 = \underline{\hspace{2cm}}$$

$$547 + 376 = \underline{\hspace{2cm}}$$

$$2979 + 4063 = \underline{\hspace{2cm}}$$

GO Check, page 20

Unit 20 Using Written Computation Methods for Addition

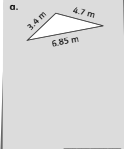
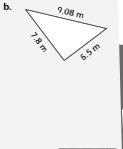
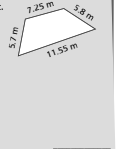
1. Record the steps you would use to figure out each of these. Then write the answer.

a. $346 + 37$	b. $378 + 465$	c. $3084 + 2958$

d. $\$26.40 + \13.70 **e.** $\$17.40 + \15.50 **f.** $\$25.60 + \18.80

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2. Calculate the perimeters. Record the steps you use.

a. 	b. 	c. 

20 GO Check Stage 3A, Unit 20 NS 3.2 NS 3.4 Date _____

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 3.1)	<i>Listen</i> to the questions students pose in order to estimate totals, e.g. 'Do both numbers have thousands?'.
Applying Strategies (WMS 3.2)	<i>Observe</i> the strategies students use to solve problems involving four-digit numbers, money and decimal fractions.
Communicating (WMS 3.3)	<i>Note</i> students' explanations and recording of the steps they use to solve problems: are they clear, ordered and logical?
Reasoning (WMS 3.4)	<i>Listen</i> as students explain why 'front-end' strategies are more efficient for estimation.
Reflecting (WMS 3.5)	<i>Listen</i> as students explain the importance of good estimation skills in real-world situations (see Reflection in 20.4).

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 3A					Stage 3B				
NS 3.2	3	10	20	25		35	42	51	57	
NS 3.4	2	3	7	10	11	12	17	35	37	39
	18	20	23	25	27	29	31	40	42	43
								49	50	52
								55	57	59
								61	63	

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.

Adding Two- and Three-Digit Numbers

Materials

- *GO Maths* student journal, page 90
- Play money from Blackline Master 10 (Note: This will be used again in 20.3.)

Optional

- *Fundamentals* (Ages 11–12), pages 32–35

Daily Computation Practice

Write the following number sentences on the board. Have the students copy and complete them or simply write the answers.

$$\frac{1}{4} \text{ of } \$12.20 = \underline{\hspace{2cm}}$$

$$\frac{1}{5} \text{ of } \$25.35 = \underline{\hspace{2cm}}$$

$$\frac{1}{10} \text{ of } \$40.50 = \underline{\hspace{2cm}}$$

$$\frac{1}{4} \text{ of } \$32.36 = \underline{\hspace{2cm}}$$

$$\frac{1}{5} \text{ of } \$15.40 = \underline{\hspace{2cm}}$$

$$\frac{1}{4} \text{ of } \$24.40 = \underline{\hspace{2cm}}$$

$$\frac{1}{5} \text{ of } \$20.45 = \underline{\hspace{2cm}}$$

$$\frac{1}{10} \text{ of } \$20.30 = \underline{\hspace{2cm}}$$

Consolidation

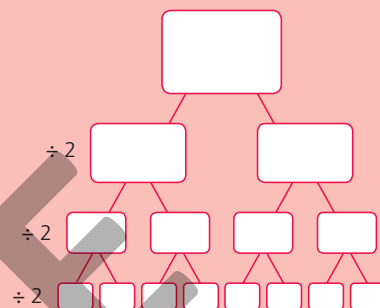
Have the students play 'Tricky Totals' in *Fundamentals* (Ages 11–12), pages 32–35.

In this lesson, students use written methods they have learned in previous stages to add.

Daily Number Sense

On the board, write **\$368** and say: *Eight people need to share this amount. How can we figure out the amount that each person will receive?*

Invite volunteers to suggest strategies that might include halving or splitting \$368 into \$320 and \$48, and dividing the parts by 8. During this discussion, draw the diagram shown on the right on the board to show the halving. Repeat for **\$424**.



Activity

1. On the board, write **\$356** and **\$85**. Ask: *How can you figure out the total amount you will pay for both of these items? How will you add if you cannot figure out the total in your head?* Invite confident individuals to describe the thinking they would use to add mentally, using play money to help explain their thinking. Then ask volunteers to show written methods they might recall from previous experiences. Write the students' suggestions on the board, including the examples shown below. Relate the algorithm (shown below right) to other methods suggested by the class.

$$\begin{array}{r} 356 \\ + 85 \\ \hline 430 \\ + 11 \\ \hline \$441 \end{array}$$

$$\begin{array}{r} 356 \\ + 85 \\ \hline 11 \\ 130 \\ + 300 \\ \hline \$441 \end{array}$$

$$\begin{array}{r} 11 \\ 356 \\ + 85 \\ \hline \$441 \end{array}$$

2. Repeat Step 1 for **\$478** add **\$256**. Discuss strategies the students suggest and reinforce that either a mental or written method can be used to add.
3. Have the students work independently to complete page 90 of the *GO Maths* student journal. Encourage the students to use a strategy of their choice. They make notes to summarise any mental methods or use a written method.

Reflection

1. Invite volunteers to share any mental strategies they used to solve any of the questions on page 90 of the *GO Maths* student journal. For example, a student may have used a compensation strategy for Question 1c because 28 is close to a multiple of 10.
2. Ask volunteers to show written methods they used for any questions they could not solve mentally.

Adding Four-Digit Whole Numbers

20.2

In this lesson, students are introduced to a 'lattice' method for written addition.

Daily Number Sense

Repeat the Daily Number Sense discussion from the previous lesson for **\$37.60** and then **\$76.80** shared by eight people.

Activity

- Write the following road distances on the board:

Sydney to Longreach	1669 km
Longreach to Darwin	2252 km
Sydney to Adelaide	1369 km
Adelaide to Darwin	3029 km

Show the students the above locations on the map. Then say: *Imagine you are planning a trip from Sydney to Darwin. What is the total travelling distance if you take the southern route through Adelaide (northern route through Longreach)? What do you think the total distances will be?* Have the students work with a partner to calculate the answers. Each student chooses one of the routes and figures out the distance using a mental or written strategy. Invite individuals to record the steps they used on the board and explain their thinking.

- Give each student a copy of Blackline Master 20 and then draw the grid shown below on the board. Discuss the steps used to record the numbers and then use the lattice to add different pairs of distances. (*Note:* The procedure is sometimes called 'lattice addition' because the recording is completed in a grid similar to 'lattice multiplication'.) The digits in each place are added and their total is written in the row with the diagonal lines, as shown below. Each digit with the same place value in that row is then added along the diagonal from right to left, and that total is written in the space below.

1	6	6	9
2	2	5	2
3	8	1	1
3	9	2	1

- Have the students work independently to complete page 91 of the *GO Maths* student journal. They can use a written method of their choice, including the lattices on Blackline Master 20.

Reflection

Discuss the students' answers to page 91 of the *GO Maths* student journal.

Materials

- GO Maths* student journal, page 91
- Map of Australia
- 1 copy of Blackline Master 20 for each student

Daily Computation Practice

Write the following number sentences on the board. Have the students copy and complete them or simply write the answers.

$$\frac{1}{4} \text{ of } \$13.20 = \underline{\hspace{2cm}}$$

$$\frac{1}{5} \text{ of } \$26.50 = \underline{\hspace{2cm}}$$

$$\frac{1}{10} \text{ of } \$42.50 = \underline{\hspace{2cm}}$$

$$\frac{1}{4} \text{ of } \$27.60 = \underline{\hspace{2cm}}$$

$$\frac{1}{5} \text{ of } \$37.50 = \underline{\hspace{2cm}}$$

$$\frac{1}{4} \text{ of } \$22.80 = \underline{\hspace{2cm}}$$

$$\frac{1}{5} \text{ of } \$17.50 = \underline{\hspace{2cm}}$$

$$\frac{1}{10} \text{ of } \$22.00 = \underline{\hspace{2cm}}$$

Extension

Ask the students to extend the lattice for addition to show how they could add three or four numbers.

Adding Dollars and Cents

Materials

- *GO Maths* student journal, page 92
- *GO Figure* computation practice book, page 39
- Play money, including cents, from 20.1

Daily Computation Practice

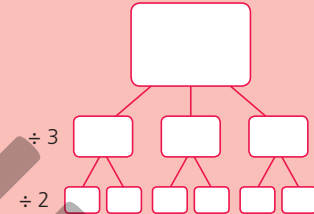
Have the students complete page 39 of the *GO Figure* computation practice book.

In this lesson, students extend written addition to four-digit amounts involving dollars and cents. They are encouraged to add mentally whenever possible.

Daily Number Sense

On the board, draw the diagram shown on the right. Ask: *What sharing do you think this shows? What numbers can we share? How do we share in the first step? (Among three people.) How do we share each amount in the second step? (Between two people.)* Encourage the students to describe the diagram and the sharing it suggests. Write **\$324**

in the space at the top. Invite volunteers to describe how they can figure out the amount in each space. Bring out the fact that the numbers across the bottom row indicate the amounts six people will get when they share \$324. Then invite the students to suggest numbers they think they can share among six and use the diagram to discuss the steps. Encourage confident students to explain how they can interchange the order to divide by 2 and then 3.



Activity

1. On the board, draw the price tags shown below.



Say: *Choose two of the prices. What is the total cost? How do you know?*

Have the students work independently to make their choices and write notes to summarise their thinking.

2. Invite volunteers to write on the board or use play money to describe the steps they used to determine each total. Include discussions of written methods, which might include addition on a lattice.
3. Have the students work independently to complete page 92 of the *GO Maths* student journal. Encourage them to use methods of their choice.

Reflection

1. Ask the students to identify the examples on page 92 of the *GO Maths* student journal they were able to figure out mentally. Invite individuals to describe what made it possible to calculate these numbers mentally.
2. Repeat for examples the students added using a written method. Invite individuals to demonstrate their methods on the board.

Adding Two Decimal Fractions

20.4

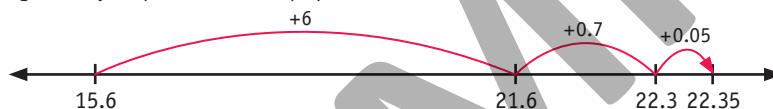
In this lesson, students add decimal fractions with a varying number of places.

Daily Number Sense

Repeat the Daily Number Sense discussion from the previous lesson to divide **\$756** among nine people. Encourage confident students to suggest dividing by 3 and then dividing by 3 again. Draw an appropriate diagram on the board to match. Repeat the discussion for **\$1755** divided among nine people.

Activity

- On the board, draw two parcels and write the masses **15.6 kg** and **6.75 kg** under each. Ask: *How much do you think these two parcels weigh? How will you estimate the mass? What will you do to figure out the exact total?* Discuss a variety of strategies and encourage the students to use the whole-number portion of each mass to make their estimates.
- Discuss the methods that can be used to find the exact mass, including any mental strategies suggested by confident students. They can show their thinking with jumps on an empty number line (as shown below).



They can also use written methods. Draw the charts shown below to help the students align the places correctly. (Note: Blackline Master 20 can be used on an overhead projector instead of drawing the lattice on the board.)

T	Ones	t	h
1	5	6	
	6	7	5

1	5	6	
	6	7	5
1	1	1	3
2	2	3	5

- Repeat Steps 1 and 2 for parcel masses with a varying number of decimal places.
- Have the students complete page 93 of the *GO Maths* student journal. Ask them to first look at the whole-number portion of the numbers and write an estimate of the total mass in the upper left-hand section of each example. They then use a strategy of their choice to find the exact total.

Reflection

- Discuss the strategies the students used to figure out the answers to page 93 of the *GO Maths* student journal. Then ask: *Will you always need to find the exact total? What is the most important thing you should be able to do with these 'messy' numbers?* Reinforce the need to make good estimates, and the steps involved.
- Discuss the importance of estimation skills in real life, e.g. estimating a mass for packaging or money to be spent. Encourage the students to explain they will use the whole number portion to make their estimates.

Materials

- GO Maths* student journal, page 93

Optional

- Blackline Master 20 copied onto an overhead transparency
- Overhead projector
- Non-permanent marker
- Fundamentals (Ages 11–12)*, pages 40–43

Daily Computation Practice

Write the following number sentences on the board. Have the students copy and complete them or simply write the answers.

- $\frac{1}{4}$ of \$26 =
- $\frac{1}{5}$ of \$37 =
- $\frac{1}{10}$ of \$52 =
- $\frac{1}{4}$ of \$34 =
- $\frac{1}{5}$ of \$66 =
- $\frac{1}{5}$ of \$18 =
- $\frac{1}{4}$ of \$21 =
- $\frac{1}{5}$ of \$48 =
- $\frac{1}{10}$ of \$75 =
- $\frac{1}{4}$ of \$29 =

Consolidation

Have the students play 'Decimal Draw' in *Fundamentals (Ages 11–12)*, pages 40–43.

Adding Three or More Decimal Fractions

Materials

- *GO Maths* student journal, page 94
- *GO Figure* computation practice book, page 40
- 2 lengths of string (3.5 m and 4.25 m)
- Tape measure

Optional

- *Fundamentals (Ages 11–12)*, pages 40–43

Daily Computation Practice

Have the students complete page 40 of the *GO Figure* computation practice book.

Consolidation

Have the students play 'Decimal Draw' in *Fundamentals (Ages 11–12)*, pages 40–43. They should use the suggestion for 'Beyond the Game'.

In this lesson, students extend their work with decimal fractions to more than three addends with a varying number of decimal places.

Daily Number Sense

On the board, write $\$936 \div 12 = \underline{\hspace{1cm}}$ and ask: *How can you figure out the number in each share when 12 people divide \$936? How can you make the division simpler?* Encourage individuals to split the division into two or three steps (e.g. $\$936 \div 3 = \312 and $\$312 \div 4 = \78). Draw a diagram for each method and have the students verify that there are always 12 spaces along the bottom row. Repeat for $\$1044 \div 12 = \underline{\hspace{1cm}}$.

Activity

1. Show the students the 3.5-m length of string without telling them its length. Ask three volunteers to hold the string to form a triangle. Each student should hold a vertex. Have other individuals measure the length of each side to the nearest hundredth of a metre and write the lengths on the board (e.g. 1.18 m, 1.27 m and 1.05 m).
2. Discuss the lengths. Ask questions such as: *How can we figure out the perimeter of the triangle?* Invite individuals to use any of the methods from the previous lesson to calculate the total and describe their thinking.
3. Measure 0.6 m along the string to form a new side for the triangle and then ask three volunteers to hold the string to randomly determine the other two sides. Repeat the above steps to write the three lengths. Ask: *What will be the total length? How will you check?* Have the students work independently to check the total. Students who use a vertical written method need to be reminded to align the numbers correctly and, if necessary, use a lattice. Invite individuals to describe the strategies they used.
4. Repeat Steps 1, 2 and 3 with the second length of string and four volunteers forming a quadrilateral.
5. Have the students work independently to complete page 94 of the *GO Maths* student journal. Encourage them to write an estimate in the upper left-hand corner of each section and then use a method of their choice to find the perimeter.

Reflection

Discuss the strategies the students used to figure out the perimeters on page 94 of the *GO Maths* student journal. Discuss questions such as: *What did the estimate tell you about the exact answer? How did the decimal portion of the lengths help you get a closer estimate?*

Investigation

Is there a relationship between the lengths of sides of all triangles?

Think

- What do we know about the sides of triangles?
- Can a triangle have three very long sides?
- Can a triangle have two very long sides and one short side?
- Can a triangle have one very long side and two short sides?
- How can a long side of a triangle be compared to the other two sides?
- How many triangles can be made using a 10-cm length of string?

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. (*Note:* Point four above is the essence of this Investigation. A triangle cannot have two very short sides and one very long side.)

Observe

Was the student able to

- use addition to check the combined length of sides of triangles he or she designed?
- use addition to prove the relationships he or she found in triangles?
- accurately use the names of types of triangles when describing them?
- describe in general terms what he or she finds out about triangles?

Reflect

Discuss the methods the students used to record and add the sides of their triangles. Focus on the additions to answer the Investigation question. Assist the students to state the relationship in general terms. (The total of any two sides of a triangle must be longer than the length of the other side.) Practise adding decimals by applying this rule to some of the measurements found.

Student Journal, page 90

20.1

Adding Two- and Three-Digit Whole Numbers

OUTCOME NS 3.2

1. Record the steps you use to figure out each of these. Then write the answer.

a. $327 + 46 = \underline{373}$

*

b. $37 + 254 = \underline{291}$

*

c. $565 + 28 = \underline{593}$

*

d. $463 + 75 = \underline{538}$

*

e. $83 + 154 = \underline{237}$

*

f. $385 + 74 = \underline{459}$

*

g. $576 + 85 = \underline{661}$

*

h. $74 + 358 = \underline{432}$

*

i. $486 + 55 = \underline{541}$

*

2. Record your steps and write the answers.

a. $685 + 573 = \underline{1258}$

*

b. $347 + 576 = \underline{923}$

*

c. $856 + 478 = \underline{1334}$

*

90 Write two three-digit numbers using 1 to 9. You can use a digit more than once but the total of the numbers must equal 1000. 60 Maths Stage 3A Unit 20.1

Student Journal, page 91

20.2

Adding Four-Digit Whole Numbers

OUTCOME NS 3.2

Distances Driven in 1 Year

	Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.
Kirra	2074 km	6958 km	5471 km	3685 km
Jordan	3852 km	5726 km	4387 km	3475 km
Chen	4268 km	5043 km	3708 km	6197 km
Hope	6873 km	1583 km	4096 km	4988 km

1. Figure out how far each person drove in the first half of the year. Record the steps you use.

a. Kirra

*

Total 9032 km

b. Jordan

*

Total 9578 km

c. Chen

*

Total 9311 km

d. Hope

*

Total 8456 km

2. Figure out the distance driven in the second half of the year. Record the steps you use.

a. Kirra

*

Total 9156 km

b. Jordan

*

Total 7862 km

c. Chen

*

Total 9905 km

d. Hope

*

Total 9084 km

3. Who drove the greatest distance for the year? Write how you know.
Chen. I added the thousands and the hundreds place for each driver for a whole year.

91 Draw a ✓ on the totals above that you could calculate mentally. 60 Maths Stage 3A Unit 20.2

Student Journal, page 92

20.3

Adding Dollars and Cents

OUTCOME NS 3.4

Mega Book Sale

Snakes	Trains	Cats	Boats	Birds	Trucks	Dogs	Bikes
\$18.50	\$26.30	\$12.60	\$27.80	\$13.70	\$38.60	\$17.20	\$21.70

1. Record the steps you use to figure out the cost of each purchase. Then write the total.

a. Trains and Snakes

*

Total \$44.80

b. Dogs and Trucks

*

Total \$55.80

c. Cats and Bikes

*

Total \$34.30

d. Snakes and Dogs

*

Total \$35.70

e. Trucks and Birds

*

Total \$52.30

f. Birds and Boats

*

Total \$41.50

g. Boats and Trains

*

Total \$54.10

h. Trucks and Cats

*

Total \$51.20

2. Choose two books. Show how you figured out the total cost.

a.

Book 1: _____

Book 2: _____

Total _____

b.

Book 1: _____

Book 2: _____

Total _____

92 Show how you can quickly calculate the total cost of the four animal books. 60 Maths Stage 3A Unit 20.3

Student Journal, page 93

20.4

Adding Two Decimal Fractions

OUTCOME NS 3.4

Calculate the total mass of these bags at the airport. Record the steps you use.

a.

14.6 kg 13.87 kg

*

Total mass 28.47 kg

b.

25.58 kg 16.7 kg

*

Total mass 42.28 kg

c.

18.8 kg 13.75 kg

*

Total mass 32.55 kg

d.

34.65 kg 15.7 kg

*

Total mass 50.35 kg

e.

17.4 kg 21.89 kg

*

Total mass 39.29 kg

f.

31.48 kg 21.3 kg

*

Total mass 52.78 kg

g.

27.15 kg 14.8 kg

*

Total mass 41.95 kg

h.

19.25 kg 23.9 kg

*

Total mass 43.15 kg

i.

25.7 kg 16.68 kg

*

Total mass 42.38 kg

93 Place the digits 1 to 6 in the boxes so the answer is close to 30.
 □□□ + □□□ = _____ 60 Maths Stage 3A Unit 20.4

* Answers will vary. This is one example.

Adding Three or More Decimal Fractions

Calculate the total length of each garden's edges. Record the steps you use.

a. Total length **5.93 m**

b. Total length **5.95 m**

c. Total length **9.45 m**

d. Total length **15.3 m**

e. Total length **20.3 m**

f. Total length **14.93 m**

g. Total length **37.55 m**

h. Total length **51.05 m**

i. Total length **30.15 m**

94 Draw and label a quadrilateral that has a perimeter of 10 metres. All sides should be different lengths. GO Math! Stage 3A Unit 20.5

ATHLETICS

Why did the athlete visit the vet?
Figure out each of these and rule a line to the correct answer. The line will pass through a number and a letter. Write each letter above its matching number at the bottom of the page.

ANSWERS
\$4.16
\$5.25
\$5.04
\$6.08
\$1.79
\$5.15
\$6.10
\$15.24
\$6.41
\$8.05
\$3.07
\$4.20
\$2.36
\$2.08
\$4.57
\$3.12
\$9.10
\$3.03
\$3.18

BECAUSE
1 2 3 4 5 6 7
H E R C A L V E S H U R T
8 9 10 11 12 13 14 15 16 17 18 19

39 GO Figure Stage 3A Unit 20 MULTIPLICATION (USING DIVISION) — DOLLARS AND CENTS

FISH TALES

Figure out each of these and write the answer. Then write each letter above its matching answer at the bottom of the page.

a. $\frac{1}{4}$ of \$62 = **\$15.50** **I**

b. $\frac{1}{2}$ of \$47 = **\$9.40** **O**

c. $\frac{1}{10}$ of \$91 = **\$9.10** **B**

d. $\frac{1}{4}$ of \$42 = **\$10.50** **H**

e. $\frac{1}{5}$ of \$72 = **\$14.40** **D**

f. $\frac{1}{10}$ of \$45 = **\$4.50** **T**

g. $\frac{1}{4}$ of \$17 = **\$4.25** **G**

h. $\frac{1}{5}$ of \$67 = **\$13.40** **U**

i. $\frac{1}{10}$ of \$68 = **\$6.80** **R**

j. $\frac{1}{4}$ of \$34 = **\$8.50** **F**

k. $\frac{1}{2}$ of \$36 = **\$7.20** **A**

l. $\frac{1}{10}$ of \$36 = **\$3.60** **N**

m. $\frac{1}{4}$ of \$46 = **\$11.50** **S**

n. $\frac{1}{5}$ of \$28 = **\$5.60** **V**

o. $\frac{1}{10}$ of \$71 = **\$7.10** **L**

p. $\frac{1}{4}$ of \$54 = **\$13.50** **Q**

q. $\frac{1}{5}$ of \$84 = **\$16.80** **E**

Some letters appear more than once.

T H E
\$4.50 \$10.50 \$16.80

A I R - B R E A T H I N G
\$7.20 \$15.50 \$6.80 \$9.10 \$6.80 \$16.80 \$7.20 \$4.50 \$10.50 \$15.50 \$3.60 \$4.25

L U N G F I S H I S
\$7.10 \$13.40 \$3.60 \$4.25 \$8.50 \$15.50 \$11.50 \$10.50

N A T I V E T O
\$3.60 \$7.20 \$4.50 \$15.50 \$5.60 \$16.80 \$9.40

Q U E E N S L A N D
\$13.50 \$13.40 \$16.80 \$16.80 \$3.60 \$11.50 \$7.10 \$7.20 \$3.60 \$14.40

40 GO Figure Stage 3A Unit 20 MULTIPLICATION (USING DIVISION) — DOLLARS AND CENTS

UNIT 20 Using Written Computation Methods for Addition

1. Record the steps you would use to figure out each of these. Then write the answer.

a. $346 + 37$ **383**

b. $378 + 465$ **843**

c. $3084 + 2958$ **6042**

d. $\$26.40 + \13.70 **\$40.10**

e. $\$17.40 + \15.50 **\$32.90**

f. $\$25.60 + \18.80 **\$44.40**

2. Calculate the perimeters. Record the steps you use.

a. **14.95 m**

b. **23.38 m**

c. **30.3 m**

20 GO Check Stage 3A Unit 20 NS 3.2 NS 3.4 Date _____

* Answers will vary. This is one example.

UNIT 20 Materials and Resources

20.1

Adding Two- and Three-Digit Numbers

Materials

- *GO Maths* student journal, page 90
- Play money from Blackline Master 10 (*Note:* This will be used again in 20.3.)

Optional

- *Fundamentals (Ages 11–12)*, pages 32–35

20.2

Adding Four-Digit Whole Numbers

Materials

- *GO Maths* student journal, page 91
- Map of Australia
- 1 copy of Blackline Master 20 for each student

20.3

Adding Dollars and Cents

Materials

- *GO Maths* student journal, page 92
- *GO Figure* computation practice book, page 39
- Play money, including cents, from 20.1

20.4

Adding Two Decimal Fractions

Materials

- *GO Maths* student journal, page 93

Optional

- Blackline Master 20 copied onto an overhead transparency
- Overhead projector
- Non-permanent marker
- *Fundamentals (Ages 11–12)*, pages 40–43

20.5

Adding Three or More Decimal Fractions

Materials

- *GO Maths* student journal, page 94
- *GO Figure* computation practice book, page 40
- 2 lengths of string (3.5 m and 4.25 m)
- Tape measure

Optional

- *Fundamentals (Ages 11–12)*, pages 40–43

Investigation

Materials

- Overhead transparency of the Investigation question and 'Think' prompts
- 10-cm length of string for each student
- 1 ruler for each student