Fourth Edition

Advanced primary maths

6

Harry O'Brien

OXFORD

CONTENTS

TERM 1

TERM 2

TERM 3

TERM 4

Mental strategies

1 Add these numbers using the compensation strategy.

a	64 + 29 =	f	156 + 19 =	k	2128 + 67 =
b	135 + 38 =	g	127 + 37 =	l	3347 + 47 =
c	163 + 29 =	h	229 + 48 =	m	4675 + 29 =
d	135 + 28 =	i	333 + 29 =	n	5876 + 37 =
e	237 + 49 =	j	247 + 38 =	o	6293 + 58 =

67 + 28
Think
67 + 30 minus 2
97 – 2 = 95

2 Add these numbers using the jump strategy.

a	575 + 29 =	f	5193 + 149 =	k	2128 + 238 =
b	687 + 48 =	g	6292 + 138 =	l	3297 + 327 =
c	793 + 49 =	h	7156 + 227 =	m	4356 + 549 =
d	887 + 58 =	i	4194 + 329 =	n	5275 + 137 =
e	486 + 37 =	j	8176 + 439 =	o	6196 + 829 =

257 + 38
Think
257 + 30 = 287
287 + 8 = 295

3 Add these numbers using the split strategy.

a	164 + 229 =	f	156 + 519 =	k	128 + 767 =
b	135 + 138 =	g	127 + 437 =	l	347 + 447 =
c	163 + 229 =	h	229 + 348 =	m	675 + 229 =
d	135 + 328 =	i	333 + 229 =	n	876 + 137 =
e	237 + 449 =	j	247 + 638 =	o	293 + 558 =

164 + 229
Think
100 + 200 = 300
60 + 20 = 80
4 + 9 = 13
Total = 393

4 Give an estimate for each question by rounding each number to 100.
The first one has been done for you.

a	212 + 397 = 600	g	3354 + 146 = _____	m	1379 + 1222 = _____
b	316 + 484 = _____	h	4245 + 360 = _____	n	1498 + 1307 = _____
c	309 + 201 = _____	i	4739 + 555 = _____	o	1689 + 2221 = _____
d	678 + 320 = _____	j	3347 + 563 = _____	p	2365 + 3437 = _____
e	476 + 281 = _____	k	5797 + 707 = _____	q	5290 + 3615 = _____
f	979 + 219 = _____	l	4369 + 432 = _____	r	4309 + 2388 = _____

5 Solve the problems.

a	Trent flew 12 345 km on Monday and 7465 km on Tuesday. What was the total length of his flight?	b	Jim's mother bought a new car for $24 545 and spent another $2449 on extras. What was the total cost of the car?

Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123)

6 Complete each algorithm.

a	47067	b	80346	c	86667	d	75033	e	67777
	− 23004		− 70008		− 65826		− 9869		− 44600
f	456307	g	658570	h	767400	i	878500	j	987000
	− 463		− 723		− 406548		− 637004		− 486038
k	256789	l	357406	m	267309	n	576208	o	374008
	− 3596		− 27480		− 36987		− 26708		− 36649

7 Bill's house renovations.

a Bill bought a house at Mangerton for $297 000 and sold it for $354 500. How much profit did he make? _____

b Bill bought a house at Corrimal for $289 050 and sold it for $347 250. How much profit did he make? _____

c Bill bought a house at Dapto for $277 980 and sold it for $333 550. How much profit did he make? _____

d Bill bought a house at Kiama for $317 450 and sold it for $377 590. How much profit did he make? _____

e Bill bought a house at Mt Keira for $312 250 and sold it for $390 500. How much profit did he make? _____

SUPER QUESTION

8 To claim travelling expenses on her tax return, Christina keeps a 'log book' which shows her car's odometer reading at the beginning and at the end of each trip. Help her calculate the distances covered and the amounts she can claim calculated at 15c per kilometre.

	Date	Beginning of trip	End of trip	Kilometres travelled	Amount claimed
a	18/9	38 542	39 461		
b	19/10	43 814	44 002		
c	4/11	44 629	44 913		
d	29/3	52 414	52 739		
e	24/4	55 029	55 216		
f			Total		

Super problem solving

9 Complete the addition stacks.

a

21			
8	13	19	7

b

24	18	16	19

c

27	34	27	36

10 Solve the problems.

a	34 562 spectators attended the show on Saturday and 40 567 attended on Sunday. How many attended in total?		d	Mr Jones bought 6 new baseball bats for his baseball club. If the bats cost $174.50 each, how much would he have spent?	
b	The monorail runs every 10 minutes, 18 hours a day, every day of the week. How many times would it run in 26 weeks?		e	Five buses carrying 48 children each transported them to the sports carnival. If each child paid $4.50, how much would be collected?	
c	A large backyard fish pond has a capacity of 3500 L. If it is $\frac{4}{5}$ full, how much more water would need to be added to make it full?		f	Jack had a bag of 45 000 beans. If he lost $\frac{1}{10}$ of them and sold $\frac{3}{5}$ of them, how many beans would Jack have left?	

WEEKLY TESTER

11 Jill is 3 times older than Jack who is $\frac{1}{2}$ the age of Josh. Sally is 4 times older than Jack and Kim is $\frac{7}{8}$ the age of Sally. Calculate the ages given various ages for Jill.

	Jill	Jack	Josh	Sally	Kim
a	24				
b	27				
c	18				
d	42				

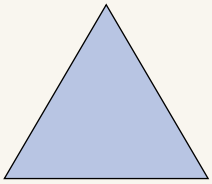
OPEN-ENDED CHALLENGER

12 The teacher wrote this number sentence on the blackboard. □□.□ × □ =

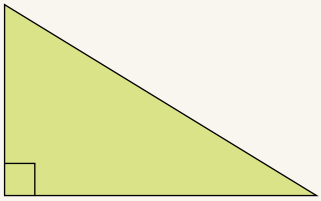
She also said that the numbers in the missing boxes were **4**, **7**, **9**, **3**.
What could some of the multiplications and their answers be?

□□.□	□□.□	□□.□	□□.□	□□.□	□□.□
× □	× □	× □	× □	× □	× □

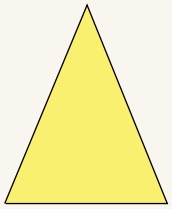
Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers (ACMNA123)



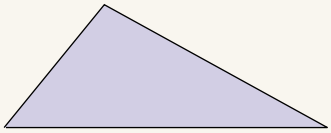
Equilateral triangle



Right-angle triangle



Isosceles triangle



Scalene triangle

13 Answer the questions.

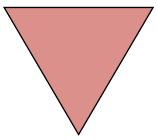
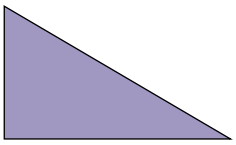
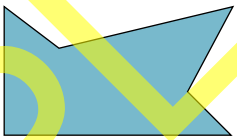
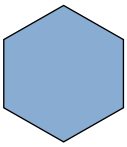
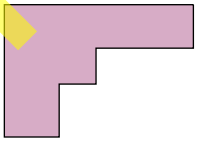
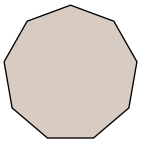
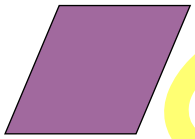
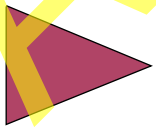
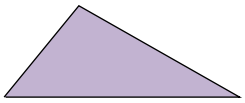
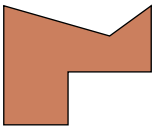
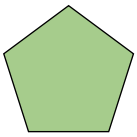
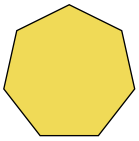
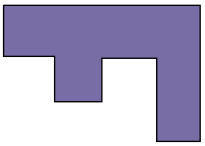
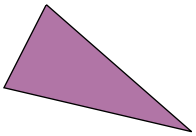
a Which triangle has 3 sides the same length and 3 angles the same size? _____

b Which triangle has 2 sides the same length and 2 angles the same size? _____

c Which triangle has no sides the same length and no angles the same size? _____

d Which triangle contains a right angle? _____

14 Name these shapes, including the full names for the triangles.

a  _____	e  _____	i  _____	m  _____
b  _____	f  _____	j  _____	n  _____
c  _____	g  _____	k  _____	o  _____
d  _____	h  _____	l  _____	p  _____

15 What shape am I?

a I have 3 straight sides. My side lengths are 7 cm, 4 cm and 5 cm. _____

b I have 8 angles the same size and 8 straight sides the same length. _____

c I have 6 straight sides. _____

d I have 10 straight sides the same length and 10 angles the same size. _____

DIAGNOSTIC Review 1

PART 1

Write the place value of the digit in bold print.

a 216 **8**34 _____

b 54**9** 275 _____

c **7**86 308 _____

Write these numbers in Roman numerals.

d 37 _____ e 66 _____

f 129 _____ g 338 _____

Write Hindu–Arabic numbers for these.

h XXXVIII _____

i LXIX _____

j CCCLXIV _____

k DCCCLXXXVIII _____

PART 2

a
$$\begin{array}{r} 96758 \\ +\ 63437 \\ \hline \end{array}$$

b
$$\begin{array}{r} 854067 \\ +\ 46834 \\ \hline \end{array}$$

c $6\overline{)3966}$ d $4\overline{)75448}$ e $8\overline{)80987}$

f
$$\begin{array}{r} 2362 \\ \times\ 3 \\ \hline \end{array}$$

g
$$\begin{array}{r} 14745 \\ \times\ 7 \\ \hline \end{array}$$

h
$$\begin{array}{r} 34564 \\ \times\ 6 \\ \hline \end{array}$$

i If Tim's average for 9 cricket games was 67 runs, what was his total score? ____ runs

j 3580 people attended day one of the cricket match but only 2376 attended day two. How many more people attended on day one? ____

k John saved $234 in January, $437 in February and $567 in March. How much more does he need to save to buy a computer worth $1599? $ ____

PART 3

Write equivalent fractions for.

a $\frac{1}{2} = \frac{}{10}$ b $\frac{3}{5} = \frac{}{10}$

c $\frac{1}{4} = \frac{}{8}$ d $\frac{3}{8} = \frac{}{24}$

Write a mixed numeral for each improper fraction.

e $\frac{7}{4} =$ f $\frac{13}{6} =$

g $\frac{9}{5} =$ h $\frac{17}{6} =$

Add the fractions.

i $\frac{3}{8} + \frac{2}{8} =$ j $\frac{3}{4} + \frac{2}{4} =$

k $\frac{3}{10} + \frac{4}{10} =$ l $\frac{5}{10} + \frac{8}{10} =$

Find the fractions.

m $\frac{3}{5}$ of 20 sheep =

n $\frac{5}{6}$ of 96 goats =

o $\frac{7}{12}$ of 600 stamps =

PART 4

Complete the number sentences.

a $3 \times 7 + 5 =$ b $100 - 3 \times 9 + 38 =$

c $3 \times (7 + 5) =$ d $33 + 47 - 3 \times 9 =$

e Circle the numbers that are prime:

74	89	167	231	96	77	195

Complete.

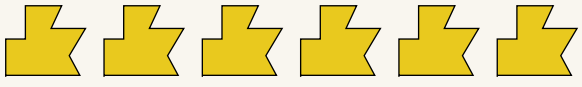
f $27 \times 100 =$ _____

g $27 \times 1000 =$ _____

h $27 \times 10\,000 =$ _____

PART 5

Extend the number pattern based on the shapes, then write a rule for it.



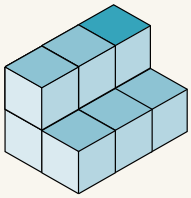
a

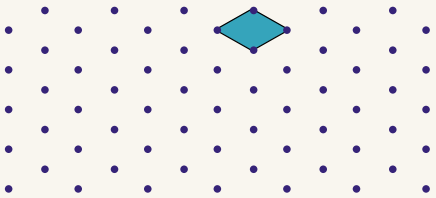
Shapes	1	2	3	4	5	6	7	8
Lines								

b Rule: _____

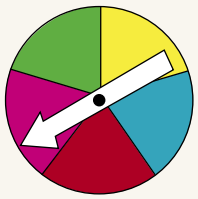
PART 6

Draw this shape on the isometric dot paper. The back block has been drawn for you.

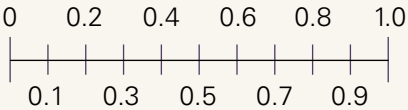




PART 7

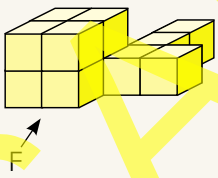


If 0 is impossible and 1 is certain, what is the probability of this spinner landing on red? Put a cross on the scale to show your answer.



PART 8

Draw the top, front and side views.

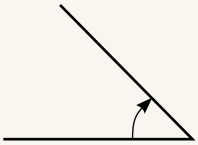


Top	Front	Side

PART 9

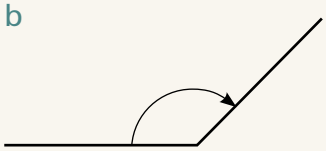
Name and measure these angles.

a



_____

b



_____

PART 10

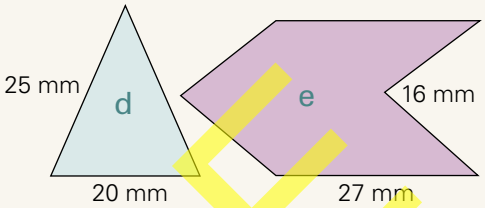
Measure the length of each line in mm.

a _____

b _____

c _____

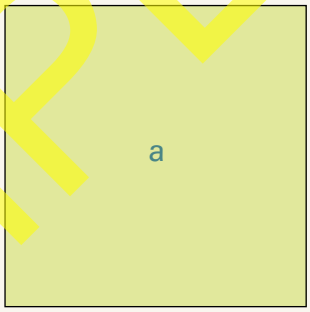
Measure and record the perimeters of these shapes in millimetres.

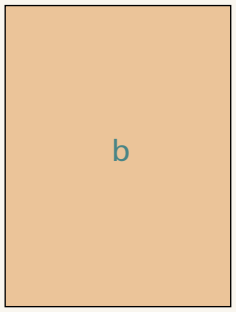


d	
e	

PART 11

Calculate the areas in cm².

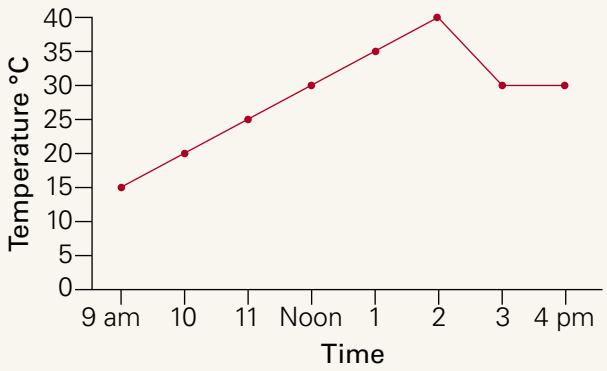




Area a = _____ cm²

Area b = _____ cm²

PART 12



a The temperature at 11:00 am was: _____

b At what time was it 35°C? _____

c The biggest change in one hour in temperature took place between:

_____