

GENERAL PRACTICE

ANSWERS ON P. 592

CHAPTER
2

1 Evaluate each expression.

a $\sqrt{169}$

b $\sqrt{256}$

c $\sqrt{289}$

d $\sqrt[3]{27}$

e $\sqrt[3]{125}$

f $\sqrt[3]{5832}$

CHAPTER
3

2 Write an algebraic expression for:

a 2 times x , plus y

b y times z minus x

c the sum of x , y and z

d the product of x and y decreased by 4 times z

CHAPTER
6

3 Simplify each fraction.

a $\frac{3}{12}$

b $\frac{18}{24}$

c $\frac{35}{100}$

CHAPTER
6

4 Convert each improper fraction into a simplified mixed numeral.

a $\frac{36}{5}$

b $\frac{67}{10}$

c $\frac{74}{12}$

CHAPTER
3

5 If $m = 2$, $n = -1$ and $p = 3$, evaluate each expression.

a mnp

b $2p - m$

c $3m - n^2$

CHAPTER
3

6 Simplify each expression.

a $3a \times 2r$

b $-7p - 2p + 6p$

c $7u \times 5u$

d $9x - 3 + 12 - 4x$

e $6p - 3q + 2p - 4q$

f $\frac{24ut}{4mt}$

CHAPTER
6

7 They scores 32 points out of his team's score of 128. What percentage is this?

CHAPTER
11

8 Write as a rate:

a 450 m in 15 seconds

b 82 points in 5 games

c 3.5 kg for \$28

CHAPTER
7

9 These are scores in a spelling test:

5 4 8 6 1 5 8 5 4 2 5.

Find:

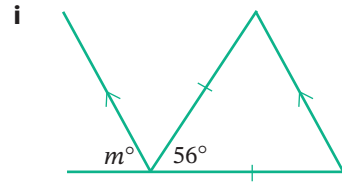
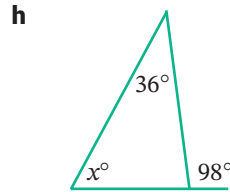
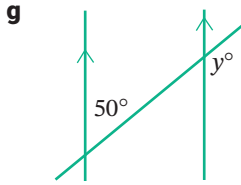
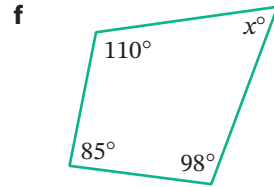
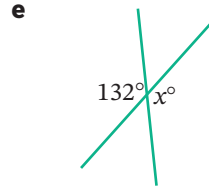
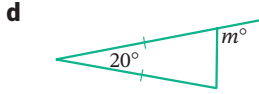
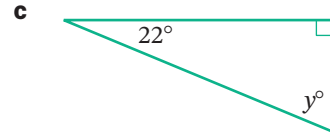
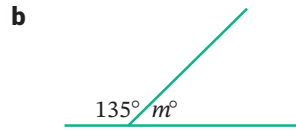
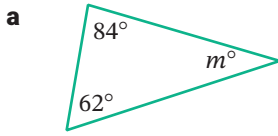
a the mean (to one decimal place)

b the median

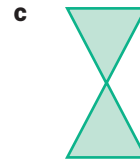
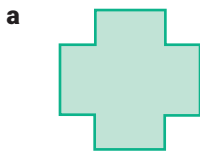
c the mode

d the range.

10 Find the value of each variable, giving reasons.

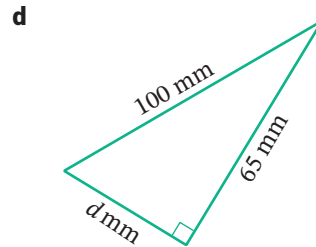
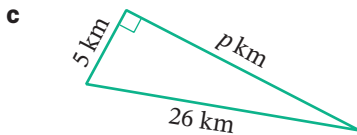
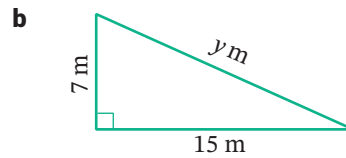
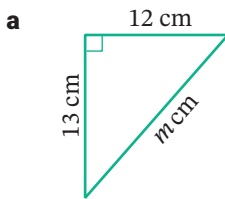


11 i Copy each shape and mark any axes of symmetry.



ii Decide whether each shape has rotational symmetry. If it does, state the order of rotational symmetry.

12 Find the value of each variable, correct to one decimal place.



CHAPTER 2

13 Use index notation to simplify each expression.

a $6^5 \div 6^3$

b $2^3 \times 2^4$

c $3^9 \div 3^7$

d 5×5^2

e $(2^3)^4$

f $(2^3 \times 5)^2$

g $3^2 \div 3^2$

h 6×4^0

CHAPTER 9

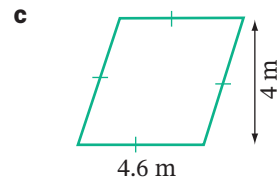
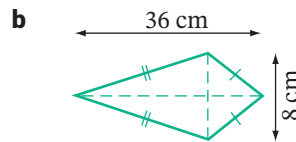
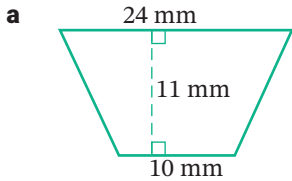
14 The probability of choosing an Ace from a pack of cards is $\frac{4}{52}$.

a What is the complementary event to choosing an Ace?

b What is the probability of this complementary event?

CHAPTER 5

15 Find the area of each quadrilateral.

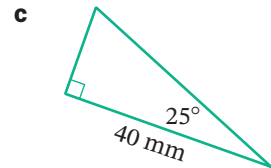
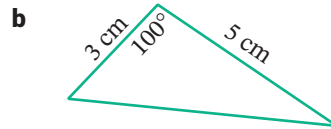
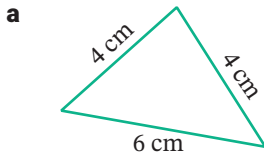


CHAPTER 4

16 Classify each triangle below:

i by sides

ii by angles.



CHAPTER 2

17 Use a factor tree to write 200 as a product of its prime factors.

CHAPTER 5

18 Copy and complete each conversion.

a $8 \text{ m}^2 = \underline{\hspace{2cm}} \text{ cm}^2$

b $4900 \text{ m}^2 = \underline{\hspace{2cm}} \text{ ha}$

c $650 \text{ m}^3 = \underline{\hspace{2cm}} \text{ cm}^3$

CHAPTER 6

19 Evaluate each expression.

a $\frac{2}{3} + \frac{3}{4}$

b $\frac{2}{3} - \frac{1}{5}$

c $\frac{7}{10} \times \frac{2}{3}$

d $\frac{4}{9} \div \frac{5}{6}$

e $1\frac{3}{8} + \frac{1}{4}$

f $4 - \frac{5}{7}$

g $5 \div \frac{4}{9}$

h $3\frac{2}{5} \times 1\frac{4}{5}$

CHAPTER 6

20 Convert 15% into a simple fraction.

CHAPTER 10

21 Solve each equation.

a $5a - 13 = 12$

b $5d + 6 = 2d - 9$

c $4(2r + 1) = 28$

CHAPTER 7

22 Classify each type of data as categorical (C), numerical discrete (ND) or numerical continuous (NC).

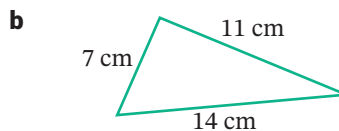
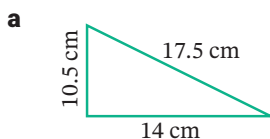
a number of taxis on the road

b rating of film (1 star to 5 stars)

c weights of babies in a maternity ward

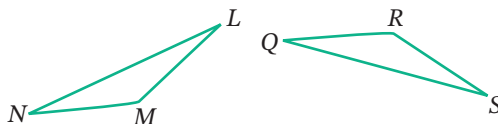
d brands of TVs

23 Test whether each triangle is right-angled.



24 These 2 triangles are congruent.

- a** Which side in $\triangle QRS$ matches side NM ?
b Which angle in $\triangle LMN$ matches $\angle S$?
c Copy and complete: $\triangle LMN \equiv$ _____



25 Gaurish earns \$22.40 per hour. How much will he earn if he works 42 hours in a week?

26 Find the formula for each table of values.

a

x	4	5	6	7	8
y	16	19	22	25	28

b

x	3	3	3	3	3
y	-1	2	4	-2	0

27 When catering for events, *Dine with Us* allows 1.2 L of drink per person.

- a** If each glass contains 150 mL, how many glasses of drink is this per person?
b *Dine with Us* are catering at an exhibition where 500 guests are expected. How many litres of drink are required?

28 Graph each linear equation on the same number plane.

a $y = 3$

b $x = -1$

29 Expand and simplify each expression.

a $3(a + 5)$

b $4(5 - 2k)$

c $3(2p - 5) - 6p$

30 Simplify each ratio.

a 42 : 49

b 16 kg : 800 g

c 10 mm : 1 m

31 A machine makes transistors, of which 2 in 35 are faulty. If the machine has made 16 faulty transistors, how many good ones would you expect?

32 Find the width of a TV screen if its diagonal is 125 cm and its height is 62 cm.

33 What time will it be:

- a** 4 hours 25 minutes after 2:15 p.m.?
b 6 hours 40 minutes before 8:35 a.m.?

34 a Graph $y = 2x - 1$ on a number plane.

b Test whether (5, 9) lies on the line.

c Graph $y = x - 2$ on the same number plane.

d Solve the equation $2x - 1 = x - 2$ graphically.

CHAPTER 1

CHAPTER 8

CHAPTER 11

CHAPTER 12

CHAPTER 5

CHAPTER 12

CHAPTER 3

CHAPTER 11

CHAPTER 11

CHAPTER 1

CHAPTER 11

CHAPTER 12

CHAPTER 6

- 35** A department store buys jeans for \$60 and sells them for \$96. Find:
- a** the store's profit
 - b** the percentage profit

CHAPTER 4

- 36** Name the shape that matches each description.
- a** A quadrilateral with equal diagonals.
 - b** A triangle with 3 equal sides.
 - c** A quadrilateral with opposite sides equal and 2 axes of symmetry.
 - d** A triangle with 2 equal angles.

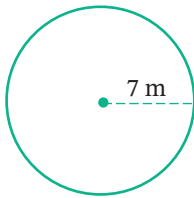
CHAPTER 5

- 37** For each shape, find correct to 2 decimal places:

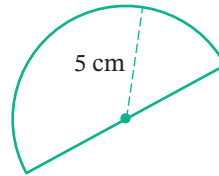
i the perimeter

ii the area.

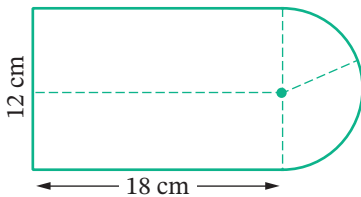
a



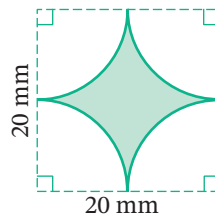
b



c



d



CHAPTER 3

- 38** Factorise each expression.

a $2y + 8$

b $5a - 15ab$

c $-8ab + 2b$

CHAPTER 6

- 39** A savings account pays 4% interest each year. If Haroon puts \$5000 in his account, how much does he get in interest after one year?

CHAPTER 9

- 40** A bag has 7 yellow badges, 3 red badges and 4 blue badges. If one badge is selected at random, what is the probability of selecting a:

a yellow badge?

b blue badge?

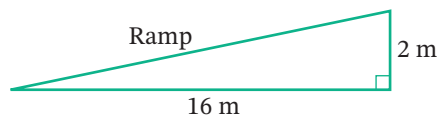
c badge that is not red?

CHAPTER 11

- 41** In an orchard, the ratio of orange trees to lemon trees is 7 : 4. If there are 2800 lemon trees, how many orange trees are there?

CHAPTER 1

- 42** A ramp for a shopping centre is built as shown. Find the length of the ramp, correct to 2 decimal places.



43 Luis uses 8 litres of paint to cover 32 square metres of wall. What area can he cover with 20 litres of paint?

44 The ages of patients waiting at a doctor's surgery are shown on this stem-and-leaf plot.

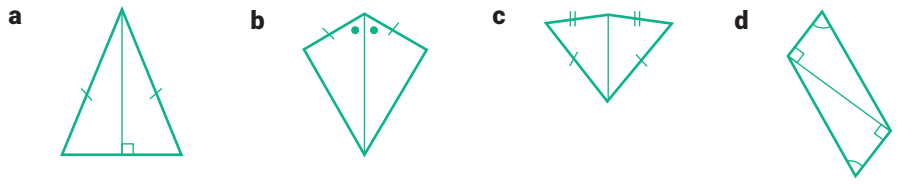
Stem	Leaf
1	3 8
2	1 9
3	5
4	2
5	0 4 7
6	
7	3 5

Find:

- a** the range
- b** the median
- c** the mean, correct to one decimal place.

- 45**
- a** Draw a rectangle and its diagonals.
 - b** Shade 2 pairs of congruent triangles.
 - c** What does this show about the diagonals of a rectangle?

46 Each shape is made up of 2 congruent triangles combined. For each shape, state which test proves that they are congruent.

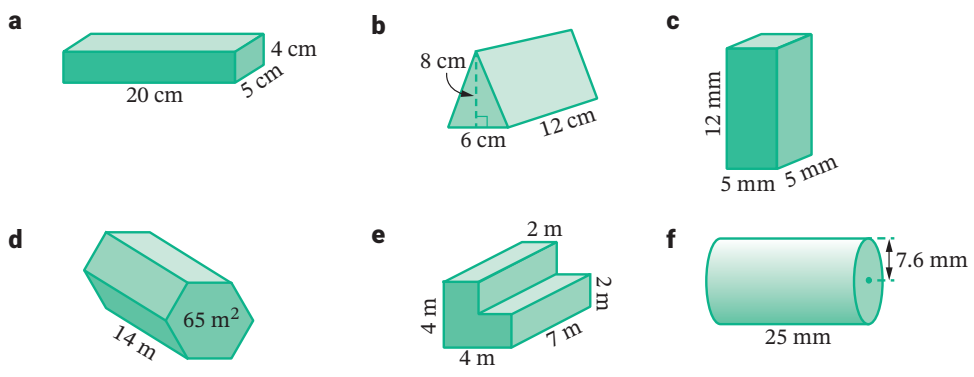


47 The scale of a plan is 1 : 2000. What distance, in centimetres, on the plan would represent a real distance of 50 m?

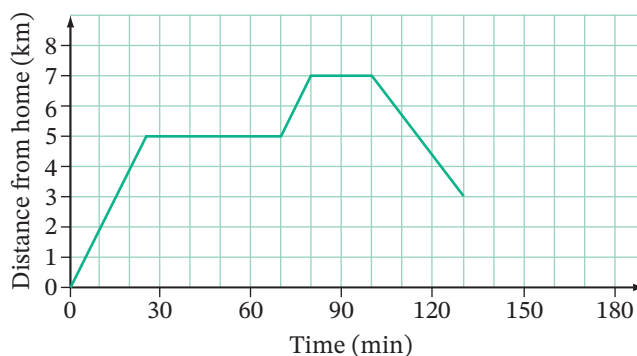
48 Which is the best buy for strawberries? Select **A**, **B** or **C**.

- A** 600 g for \$8.60
- B** 500 g for \$7.00
- C** 1 kg for \$15

49 Find the volume of each solid. (For part **f**, round your answer to one decimal place).

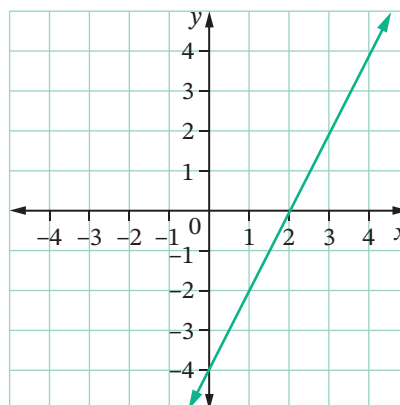


- 57** Mel went on a bike ride and her trip is shown in the travel graph.



- How far from home was Mel after 20 minutes?
 - When and where was she furthest from home?
 - For how long did Mel rest on her second stop?
 - When Mel was travelling home, what was her average speed in km/h?
- 58** Solve the linear equation $4 - 2x = 6$ graphically.

- 59** Find the equation of this line.



- 60** Izak paid \$88 for a shirt at a '20% off' sale. What was the original price of the shirt?