

Chapter 21

Exercise 21A

- 1 a 2.352
b 23.561
c 3.450
d 345.949
e 0.010
f 13.418
g 2.041
h 5.170
i 0.040
j 18.000
- 2 a 7900
b 3.5
c 290
d 0.48
e 24
f 3500
g 0.0054
h 6500
i 0.00046
j 230000

3 83.1 g.

4 a,b,c

UK	400000	64000000	6.25
USA	6400000	320000000	20
Canada	1400000	35000000	40
Germany	640000	80000000	8
Scotland	55000	5300000	10.38
Ireland	99000	4400000	22.5
Australia	810000	24000000	33.75
India	4200000	1200000000	3.5

- d Canada, Australia and Ireland. Population density, national wealth.

Exercise 21b

- 1 a number must end in 0
b should be around 6
c should be around 8000
d should end in 4
e should be around $13+2=15$
f should end in 2
- 2 a 8000
b 11
c 4800
d 250
- 3 £14
- 4 Monday 12th, 3:30PM
- 5 £1400
- 6 Tin volume = $3000 = \frac{1.2}{40}$, 3000 g. $\frac{\text{change in } y}{\text{change in } x}$
- 7 a 6
b 10
c 7
d 20

Activity – exercise for student

Exercise 21C

- 1 £486 inc VAT
- 2 $4 \times 49 + 3 \times 30$
- 3 13 weeks.
- 4 free roamer
- 5 £612.08.
- 6 £382.61
- 7 £390.46

Exercise 21D

1	Fraction	Decimal	Percentage
	$\frac{1}{2}$	0.5	50%
	$\frac{1}{4}$	0.25	25%
	$\frac{1}{10}$	0.1	10%
	$\frac{3}{4}$	0.75	75%
	$\frac{2}{3}$	0.67	67%
	$\frac{1}{3}$	0. $\dot{3}$	33%
	$\frac{3}{4}$	0.75	75%
	$\frac{1}{5}$	0.2	20%
	$\frac{7}{5}$	1.4	140%
	$\frac{5}{2}$	2.5	250%

- 2 a, b
- 3 South's is cheaper.
- 4 1496 [rounded up]
- 5 48547
- 6 £237.90, 3.8%
- 7 never shop online: 84
online+real: 231
never shop (rounded): 13
- 8 Homeland
- 9 a scotia £4719.92
hebrides £4643.89
harold £4947.80
zebra £5157.87
b £513.98

Exercise 21E

- 1 32.4 m, 32.72 m^2
- 2 a 26.9 m^3
b 27500 cm^3

- 3 a 1007 tiles are required
b Tiles cost £4292.50, Adhesive £239.94, Grout £56.97. Total for materials is £4589.41
c Hours total is £932 (including VAT), material total is £5507.29 (including VAT). Total for job is £6443.29.
- 4 The can should be between 7 cm high and 7 cm diameter and 10cm high and 6cm diameter
- 5 a 36.6 cm \Rightarrow 366 m
b 94.1 cm \Rightarrow 941 m
c 1632 m^2
d 7820 m^2
- 6 942.5 cm^3
- 7 a 120 cm
b 18000 cm^2
- 8 Yes, Volume is 3.2 m^3 .
- 9 No.
- 10 56.55 cm^3
- 11 a 26554.3 cm^3
b Two required 76.77 kg.

Exercise 21F

- 1 2800 ml, 700 ml
- 2 2 hours 42 min
- 3 Helen
- 4 a 1016
b 847
c £91.50
- 5 a In same order as question:
833, 3, 3, 83, 83, 3, 400
b £10.32
- 6 10.44m/s, 10.42m/s, 9.48m/s, 8m/s, 7.28m/s, 6.23m/s, 5.7m/s
- 7 a 11:45.
b Exercise for student
- 8 Yvonne
- 9 Dinky
- 10 a 450ml, 300ml
b 480ml, 360ml, 240ml

11 0.35kg, 1.225kg, 0.525kg

12 a kitchen: 5.85 m X 3.83 m
 bathroom: 3.83 m X 2.03 m
 bed1: 5.85 m X 3.83 m
 bed2: 4.73 m X 3.83 m
 LR: 9.90 m X 5.85 m
 + 6.75 m X 3.83 m
 hall: 3.83 m X 2.03 m
 + 2.03 m X 3.83 m

b £4326.16

13 Answers in minutes

Stonehaven: 33
 Elgin: 137
 Fraserburgh: 90
 Peterhead: 65
 Ellon: 37
 Inverurie: 33

Activity

- 1 a** 10
b 1342
c 3 hours 5 mins
d 6
e 30.81mph
f 1 hour 44 mins
- 2** £60.11
- 3 a** 1210 kg
b 16.35 kg
- 4** 11
- 5 a** $11.8^{\circ} C$
b 9.2° , 3.6°
c April mean is lower and April sd is higher.
d 0.4
- 6 a** 5.45 km
b 2 hours 44 mins