o go by train.

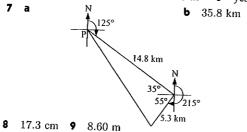
91.21 km

Was de la

機以一次主

13 km)50 .8 km

1078 m **2** 6.40 cm **3 a** 7.99 m **b** 11.3 m77.9 m **5 a** 11.3 m **b** 45.3 m^2 **6** yes



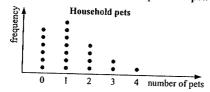
EXERCISE 5A

quant. discrete **b** quant. continuous categorical quant. discrete e quant. discrete f categorical quant. discrete h quant. continuous quant. discrete | quant. continuous | k categorical categorical m categorical n quant. continuous quant. discrete p categorical q quant. discrete categorical s categorical t quant. continuous 2 Answers will vary quant. discrete

EXERCISE 5B

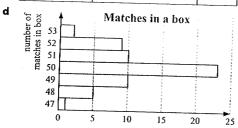
continuous continuous c discrete d continuous continuous f discrete g discrete h continuous

- number of pets
 - Discrete since you can't have part of a pet.



- positively skewed, no outliers e 30% f 15%
- the number of phone calls made in a day
- You can only make whole phone calls. c 10%
- 20% e two calls per day
- positively skewed with an outlier
- Data value 11 is an outlier.
- 50 households **b** 15 households **c** 36%
 - positively skewed, no outliers
- number of matches in a box **b** discrete

	No. matches	Tally	Freq.
	47		1
	48	##	5
	49	## ##	10
ł	50	####	23
1	51	## ##	10
1	52	##	9
1	53		2



- 38.3%

a	No. peas	Tally	Freq.
	3		4
	4		13
	5	## ##	11
	6	#######	28
	7	######	48
		####	
	8		27
	9	###	14
	10]]]]	4
- 1	11		0
	12		0
	13		1
		Total	150

Peas with fertiliser 50 frequency 40 30 20 10 number of peas per pod 0 2 3 5 6 9 10 11 12 13

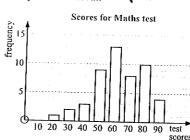
- c Yes, data value 13 is an outlier.
- On average the number of peas is higher in the "with fertiliser" group. The mode has increased from 6 to 7.
- Yes, assuming the fertiliser is not too expensive and the peas are as big as they were previously.

EXERCISE 5C

1

Test Score	Tally	Freq.	b 28%
0 - 9		0	c 12%
10 - 19		0	
20 - 29	11	1	
30 - 39	11	2	
40 - 49	[[]	3	
50 - 59	##	9	
60 - 69		13	
70 - 79	##	8	
80 - 89	####	10	
90 - 100	1111	4	
	Total	50	

More students had a test score in the interval 60 - 69 than in any other interval.



- 2
 a
 Stem
 Leaf
 b
 Stem
 Leaf

 2
 759741
 2
 145779

 3
 464305
 3
 034456

 4
 2860
 4
 0268

 5
 7108
 5
 0178
 - 5 | 8 represents 58
- 3 a 2 b 62 c 16 d 5 e 17.1% f positively skewed
- 4 a Stem | Leaf 0 9 1 8 2 5884986205085 3 5334824955056233446 4 2491635802 5 0 5 0 represents 50
 - b Stem | Leaf 0 | 9 1 | 8 2 | 0024555688889 3 | 0223333444455556689 4 | 0122345689
 - c The stem-and-leaf plot shows all the actual data values.

15

26

72.5%

d i 50 ii 9 e 24.4% f 13.3%

5	HC		IIP
	8754432210	1	124455689
	$\begin{array}{r} 95 \\ 8754432210 \\ 776110 \\ 720 \end{array}$	2	234599
	720	3	0
		- :	1 -

EXERCISE 5D

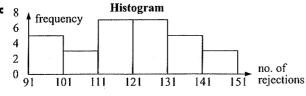
a	Weight (kg)	Tally	Frequency
	50 -	[]]	4
	60 -	## 11	7
	70 -	#####	15
	80 -	###1	11
	90 -	111	3
	Total		40

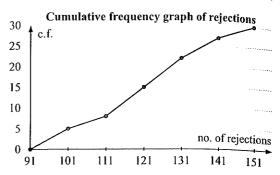
2 a 29 b 22.2% 3 a 20 b 58.3% c i 1218 ii 512

EXERCISE 5E

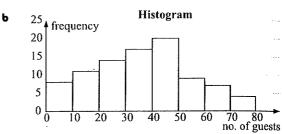
1	Value	Freq	Cum Freq	Rel Freq	Cum Rel Freq
	32	3	3	0.0375	0.0375
	35	7	10	0.0875	0.125
	36	8	18	0.1	0.225
	39	11	29	0.1375	0.3625
	41	15	44	0.1875	0.55
	44	12	56	0.15	0.70
	45	8	64	0.1	0.80
	46	7	71	0.0875	0.8875
	49	5	76	0.0625	0.95
	50	4	80	0.05	1.00
	Total	80	_	1	

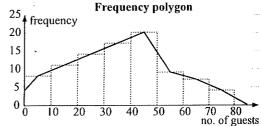
2 b i 15 ii 16.7% iii 73.3%

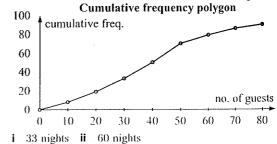




Class Cum Freq Freq 1 - 10 11 - 20 19 11 21 - 30 33 14 31 - 40 50 17 41 - 50 20 70 79 51 - 609 61 - 70 86 71 - 80 90







No, less than 30 guests 35% of the time, ∴ did not break even.

Class	Freq	Cum Freq
1 - 20	15	15
21 - 40	21	36
41 - 60	24	60
61 - 80	18	78
81 - 100	12	90
101 - 120	6	96
121 - 140	4	100

ctions

.....

rejections

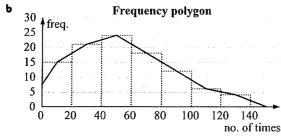
. . . .

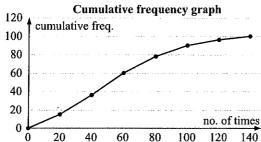
of guests

80 of guests

of guests

l not

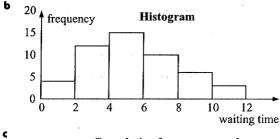


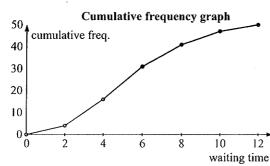


i 78% ii 30 times

5 a

Class	Tally	Freq	Cum Freq
0 - 1.99	[]][4	4
2 - 3.99	####1	12	16
4 - 5.99	#####	15	31
6 - 7.99	####	10	41
8 - 9.99	HH	6	47
10 - 11.99		3	50





i 16 customers ii 47%

iii In 8 minutes, $\frac{41}{50} \times 100\% = 82\%$ are served which is short of its goal.

EXERCISE 5F.1

1 Team A 91.25, Team B 91.75, : Team B

2 a 49 b 144 and 147 (bi-modal) c 25

a 29 b 107 c 149.5

4 a 0 **b** 1.7 **c** 1.5 **5** in=81.2 mm

6 a mean = \$163770, median = \$147200 (differ by \$16570)

b i mean selling price ii median selling price

7 x = 15 **8** 17.25 goals per game **9** \div 17.7 **10** 10.1 cm

11 6 and 12 **12** a a=5, b=13 b the mode does not exist

EXERCISE 5F.2

1 a mean = 59.5, mode = 60, median = 59

b Both the mean and median number of nails per pack are under the store's claim of 60 nails per pack.

The mean, as it takes into account all of the data and there are no extreme values.

2 mean i 34.6, mode = 35, median = 35

3 a i = 70.9 g **b** i = 210 g **c** 139 g

EXERCISE 5F.3

1 a $\overline{x} \doteqdot 13.5$ b $\overline{x} \doteqdot 50.5$ 2 31.7

3 a i 13.6 goals **b** 1 13.5 goals ii 13.6 goals

• The approximations are about the same. 4 ± 495 mm

a 70 **b** $div 411\,000$ litres, i.e., $div 411\,kL$ **c** $div 5870\,L$

6 a 125 people **b** ightharpoonup 119 people**c** $<math>\frac{3}{25}$ **d** 137 marks

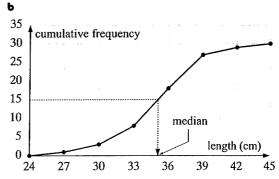
a 95 **b** 59.6 kg **c** 25 **d** 36.8% **e** $\frac{9}{19}$ or 47.4%

EXERCISE 5F.4

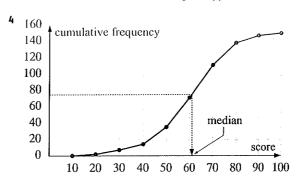
3

1 a 2 **b** 8 **2** 1 error

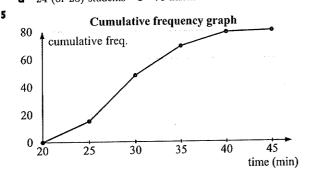
3	Length (x cm)	Frequency	C. frequency
	$24 \leqslant x < 27$	1	1
	$27 \le x < 30$	2	3
	$30 \le x < 33$	5	8
	$33 \le x < 36$	10	18
	$36 \le x < 39$	9	27
	$39 \leqslant x < 42$	2	29
	$42 \leqslant x < 45$	1	30



d actual median = 34.5, i.e., a good approximation



a $\div 61$ students **b** $\div 91$ students **c** $\div 76$ students **d** 24 (or 25) students **e** 76 marks



a 29 min **b** 33 min **c** 26.5 min

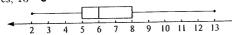
6 a 26 years b 36% c i 0.53 ii 0.030

EXERCISE 5G

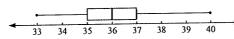
- 1 a i 14 ii 4 iii 10 iv 13
 - **b** i 52 ii 45.5 iii 6.5 iv 21
 - **c i** 31.5 **ii** 19.5 **iii** 12 **iv** 38
 - d i 3 ii 1 iii 2 iv 5
- 2 a median = 2.05 minutes, $Q_3 = 3.15$ minutes, $Q_1 = 1.1$ minutes
 - **b** range = 5.6 minutes, IQR = 2.05 minutes
 - c i "50% of the waiting times were greater than 2.05 minutes."
 - ii "75% of the waiting times were less than 3.15 minutes."
 - "The minimum waiting time was 0 minutes and the maximum waiting time was 5.6 minutes. The waiting times were spread over 5.6 minutes."
- 3 a 6.0 b 10.1 c 8.15 d 7.5 e 8.9 f 4.1 g 1.4
- 4 a 10 b $\div 28.3\%$ c 7 cm d IQR $\div 2.6$ cm
 - 10 cm, which means that 90% of the seedlings have a height of 10 cm or less.
- **5 a** 27 min **b** 29 min **c** $31\frac{1}{2}$ min **d** IQR $\doteqdot 4\frac{1}{2}$ min
 - e 28 min 10 sec
- **6 a** 480 **b** 120 marks **c** 84 **d** IQR \doteqdot 28 **e** 107 marks

EXERCISE 5H

- 1 a i 98 ii 30 b 73 c 68 d 75% e 22
 - f 82 and 98 g no
 - h The median divides the 'box' and the minimum and maximum values disproportionately, clearly showing a skewed distribution.
- **2 a** 12 **b** lower boundary = 13.5, upper boundary = 61.5
 - c 13.2 and 65 would be outliers
- **3** a median = 6, $Q_1 = 5$, $Q_3 = 8$ **b** 3
 - c lower boundary = 0.5, upper boundary = 12.5
 - **d** yes, 13 e



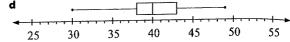
- 4 a $Min_x = 33$, $Q_1 = 35$, $Q_2 = 36$, $Q_3 = 37$, $Max_x = 40$
 - **b** i 7 ii 2 c no



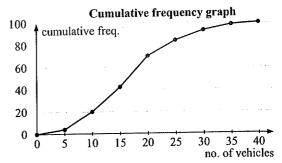
EXERCISE 51.1

- **1** $\overline{x} = 55$, s = 10.9 **2** $\overline{x} = 1.69$, s = 0.182
- 3 $\overline{x} = 45$, s = 3.28

4 a $\overline{x} = 40.35$, s = 4.23 **b** $\overline{x} = 40.6$, s = 4.10 **c** 5

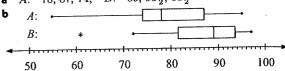


5 $\overline{x} = 17.45$, $s^2 = 61.95$, s = 7.87, IQR = 11



6
$$\overline{x} = 25.7$$
, $s^2 = 178.0$, $s = 13.3$, IQR = 20

7 a A: 78, 87, 74; B: 89, $93\frac{1}{2}$, $81\frac{1}{2}$



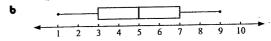
B as the distribution is further right than for A. Also the median is much higher.

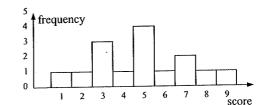
EXERCISE 51.2

- 1 Machine B (7.69%)
- Greater variability in the past 6 months (9.66% to 10.0%) may indicate a problem with the machine.
 3 males (8.08%)

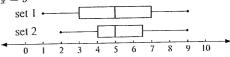
EXERCISE 5J.1

1 a $\overline{x} \doteq 4.87$, Min_x = 1, Q₁ = 3, Q₂ = 5, Q₃ = 7, Max_x = 9



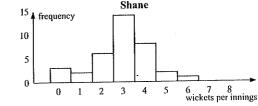


d $\overline{x} \doteq 5.24$, $Min_x = 2$, $Q_1 = 4$, $Q_2 = 5$, $Q_3 = 6.5$, $Max_x = 9$



EXERCISE 5J.2

1 a discrete



.10 **c** 5

h •—•

5 40 f vehicles

100 A

o 10.0%) iles (8.08%)

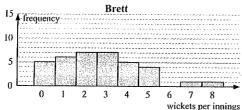
= 7,

10

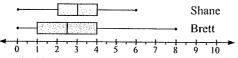
9 score = 6.5,

10

8 er innings



- d There are no significant outliers.
- Shane's distribution is reasonably symmetrical. Brett's distribution is positively skewed.
- f Shane has a higher mean (≥ 2.89 wickets) compared with Brett (≥ 2.67 wickets). Shane has a higher median (3 wickets) compared with Brett (2.5 wickets). Shane's modal number of wickets is 3 (14 times) compared with Brett, who has a bi-modal distribution of 2 and 3 (7 times each).
- Shane's range is 6 wickets, compared with Brett's range of 8 wickets. Shane's IQR is 2 wickets, compared with Brett's IQR of 3 wickets. Brett's wicket taking shows greater spread or variability.



Generally, Shane takes more wickets than Brett and is a more consistent bowler.

2 a continuous

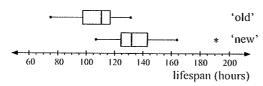
d

For the 'New type' globes, 191 hours could be considered an outlier. However, it could be a genuine piece of data, so we will include it in the analysis.

	Old type	New type
Mean	107	134
Median	110.5	132
Range	56	84
IQR	19	18.5

The mean and median are $\doteq 25\%$ and $\doteq 19\%$ higher for the 'new type' of globe compared with the 'old type'. The range is higher for the 'new type' of globe (but has been affected by the 191 hours).

The IQR for each type of globe is almost the same.



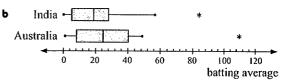
- For the 'old type' of globe, the data is bunched to the right of the median, hence the distribution is negatively skewed. For the 'new type' of globe, the data is bunched to the left of the median, hence the distribution is positively skewed.
- **9** The manufacturer's claim, that the 'new type' of globe has a 20% longer life than the 'old type' seems to be backed up by the 25% higher mean life and 19.5% higher median life.

EXERCISE 5K

1 a		Year 10	Year 12
	Min _x	5	8
	Q ₁	7.5	10
	Median	10	14
	Q ₃	12	16
	Max_x	16	17
bi	Range	11	9
ii	IQR	4.5	6

- **2 a i** Class B ii Class B iii Class B **b i** 52 ii 15 **c i** 75% ii 50%
 - d i almost symmetrical ii positively skewed
 - "The students in class A generally scored higher marks. The marks in class B were more varied."

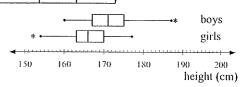
3 a	4 3 3	Australia	India
	Min_x	1	0
	Q ₁	8	5
	Median	24.8	18.84
	Q ₃	40.1	27.92
	Max_x	109.8	83.83
	Outliers	109.8	83.83
c	Mean	28.97	22.98
	Range	108.8	83.83
	IQR	32.1	22.915



Australia's measures of centre are higher than for India. The spread of scores for Australia are also higher than for India.

d No, the outliers are genuine data and should be included in the analysis.

a		Boys	Girls
	Min_x	160	152
	Q ₁	167	163
	Median	171	166
	Q_3	175	170
	Max_x	188	177
	Outliers	188	152

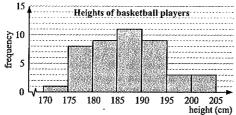


b The distributions show that in general boys are taller than the girls and are more varied in their heights.

REVIEW SET 5A

- 1 a discrete numerical b continuous numerical
 - c categorical d categorical e categorical
 - f continuous numerical g continuous numerical
 - h discrete numerical i discrete numerical

- Stem Leaf 0 7 8 1 79 3 2256899
 - 0 3 4 4 5 6 6 7 8 1 | 8 means 18 marks
- 45% c 20% d 90% e negatively skewed
- Heights can take any value from 170 cm to 205 cm.

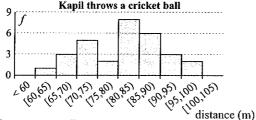


- The modal class is (185-< 190) cm as this occurred the most frequently.
- slightly positively skewed
- 15
- highest = 97.5 m, lowest = 64.6 m
 - ь use groups 60 -, 65 -, 70 -, etc.

A frequency distribution table for distances thrown by Kapil					
distance (m)	tally	freq. (f)			
60 -		1			
65 -		3			
70 -	##	5			
75 -		2			
80 -	## III	8			
85 -	##	6			
90 -		3			
95 < 100		2			
	Total	30			

d i/ii

Frequency histogram displaying the distance



a		A	B
	Min	11	11.2
	Q_1	11.6	12
	Median	12	12.6
	Q ₃	12.6	13.2
	Max	13	13.8
Ьi	Range	2	2.6
ii ,	IQR	1	1.2

- The members of squad A generally ran faster times. The times in squad B were more varied.
- $\overline{x} = 121.55, \quad s = 8.32 \quad \mathbf{b} \quad \overline{x} = 7.01, \quad s = 1.05$

9 a		Girls	Boys	
		outliers	none	none
	shape	approx. symm.	approx. symm.	
		centre (median)	36.3 sec	34.9 sec
		enroad (ranga)	7 7 500	40 500

For both the girls' and boys' distributions of times there are no outliers and they are approximately symmetrical. The median swim times for boys is 1.4 seconds lower than for girls but the range of the girls' swim times is 2.8 seconds higher than for boys. The analysis supports the conjecture that boys generally swim faster than girls with less spread of times.

REVIEW SET 5B

- continuous numerical **b** categorical **c** categorical continuous numerical e discrete numerical
 - discrete numerical g categorical
- Diameter of bacteria colonies

U	489
1	489 3557 115688
2	115688

- 15688
- 012345566779
- 4 | 01279

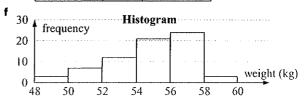
leaf unit: 0.1 cm

- i 3.15 cm ii 4.5 cm
- The distribution is slightly negatively skewed.
- a histogram **b** continuous **c** (55 < 60) kg

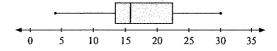
Weights (kg)	Freq.	Midpoints	Product
40 -	4	42.5	170
45 -	12	47.5	570
50 -	13	52.5	682.5
55 -	25	57.5	1437.5
60 -	17	62.5	1062.6
65 - < 70	9	67.5	607.5
Total	80		4530

- $\pm 56.6 \text{ kg}$
- 70 **b** 14%

e	Weight (kg)	Freq.	Cum. Freq.
	48 -	3	3
	50 -	7	10
	52 -	12	22
	54 -	21	43
	56 -	24	67
	58 - < 60	3	70



- g modal class is 56 no, it is negatively skewed
- a = 8 and b = 9 or a = 9 and b = 7 **b** 7.5
- min = 4, $Q_1 = 13.4$, med = 15.75, $Q_3 = 22.4$, max = 30



EXERC

times there mmetrical. onds lower imes is 2.8 apports the 1 girls with

tegorical

kg

weight (kg) ewed

7.5

35

b min = 11, $Q_1 = 19$, med = 25, $Q_3 = 37$, max = 49

	•	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
◀						
0	10	20	30	40	50	60

a i 101.5 ii 98 iii 105.5 **b** 7.5 **c** $\overline{x} = 100.2$, s = 7.78

a i 3.75 **ii** eq 0.229 **iii** 0.06

b i eq 4.86 ii eq 4.05 iii eq 19.1

	Brand X	Brand Y
outliers	none	none
shape	approx. symm.	slightly pos. skewed
centre (median)	896.5	903.5
spread (range)	45	37

c The distributions of both Brand X and Brand Y show no outliers. Brand X's distribution is approximately symmetrical but Brand Y's is slightly positively skewed. Brand Y's distribution has a higher median number of peanuts per jar by 7. Brand X jars show a greater spread of peanuts per jar than Brand Y by 8.

EXERCISE 6A

- **a** 20 **b** -8 **c** -24 **d** -24 **e** 16 **f** 23
 - -14 h 14
- **2** a $1\frac{1}{2}$ b -5 c -3 d 3
- **a** 1 **b** -8 **c** 13 **d** 1 **e** -9 **f** -27 **g** 36 **h** 18

-1 **b** 1 **c** d 2.24 **d** 4 **e** d 3.32 **f** 5 g 0 h undefined

EXERCISE 6B

- 1 a x = -4 b x = 7 c x = 11 d x = -6**e** x=2 **f** x=-2 **g** $x=3\frac{1}{2}$ **h** $x=2\frac{1}{2}$
- **2** a x = 32 b x = -10 c x = -6 d x = -9
- **e** x = -11 **f** x = 10 **g** x = 8 **h** x = 11
- 3 a $x=-\frac{5}{7}$ b x=0 c x=-9 d x=1
 - e $x = -1\frac{2}{3}$ f $x = -\frac{1}{9}$
- **a** x=9 **b** $x=\frac{7}{5}$ **c** $x=\frac{11}{8}$ **d** x=-2 **e** $x=\frac{2}{5}$
 - **f** x = -10 **g** x = 8 **h** x = 0 **i** $x = \frac{3}{4}$ **i** $x = -\frac{13}{9}$
- **a** x = 1 **b** x = 2 **c** $x = \frac{22}{9}$ **d** $x = -\frac{9}{5}$
- e $x = -\frac{2}{3}$ f $x = -\frac{19}{6}$
- **a** True for all values of x. **b** No solution.
 - Case a represents the intersection of two coincident lines. Case b represents two parallel lines.

EXERCISE 6C.1

- 1 a $x=\frac{6}{7}$ b $x=\frac{18}{5}$ c x=5 d $x=-\frac{11}{2}$ e $x=\frac{15}{11}$
 - **f** no solution **g** $x = \frac{8}{9}$ **h** $x = \frac{41}{19}$ **i** $x = -\frac{4}{15}$
- **2 a** $x = \frac{25}{3}$ **b** x = 21 **c** $x = \frac{21}{4}$ **d** $x = \frac{6}{5}$
 - e $x=\frac{9}{10}$ f x=-4 g $x=-\frac{15}{11}$
 - **h** No solution, 32x = 21x gives x = 0 but you cannot divide by 0.

3 a $x=-\frac{5}{2}$ b $x=-\frac{2}{11}$ c no solution d no solution **e** $x = \frac{9}{8}$ **f** $x = -\frac{9}{4}$ **g** $x = \frac{31}{26}$ **h** no solution **i** $x = -\frac{1}{6}$

EXERCISE 6C.2

- **a** x = 1.56 **b** x = 262 **c** x = 1.09 **d** x = -26.0
- **a** w = 55 g **b** w = 92.5 g
- **a** 4.44° C **b** -17.8° C **c** 93.3° C
- 110 m **b** 190 m
- x = 9.5 **b** x = 6.56 **c** x = 10.5 **d** x = 37.3

- $\frac{19}{7}$ **2** 6 **3** $4\frac{1}{2}$ **4** 11 **5** $\frac{5}{3}$
- **7** 9 years **8** 16 2-cent stamps
- 9 13 one-cent coins, 26 two-cent coins, 11 five-cent coins
- 7 2-cent, 21 5-cent, 7 10-cent stamps
- 950 \$6 tickets, 2850 \$10 tickets, 3350 \$15 tickets

EXERCISE 6E

- **a** 35.8 cm **b** 79.6 cm **c** 15.9 m **2 a** 44.1 m **b** 129 m
- a 80 km/h b 260 km c 7 h 52 min
- 98.5 cm² **b** 7.98 m
- **a** 7920 cm^3 **b** 1.59 cm **c** 0.399 mm
- **a** 11.3 km **b** 71.0 m **7 a** 598 cm^2 **b** 28.2 cm

1 a
$$y = \frac{4-x}{2}$$
 b $y = \frac{7-2x}{6}$ **c** $y = \frac{11-3x}{4}$

d
$$y = \frac{8-5x}{4}$$
 e $y = \frac{20-7x}{2}$ **f** $y = \frac{38-11x}{15}$

2 a
$$y = \frac{x-4}{2}$$
 b $y = \frac{2x-7}{6}$ **c** $y = \frac{3x+12}{4}$

d
$$y = \frac{4x - 18}{5}$$
 e $y = \frac{7x - 42}{6}$ **f** $y = \frac{12x + 44}{13}$

3 a
$$x = b - a$$
 b $x = \frac{b}{a}$ **c** $x = \frac{d - a}{2}$ **d** $x = t - c$

e
$$x = \frac{d-3y}{7}$$
 f $x = \frac{c-by}{a}$ g $x = \frac{c+y}{m}$

h
$$x = \frac{c-p}{2}$$
 i $x = \frac{a-t}{3}$ **j** $x = \frac{n-5}{k}$

$$\mathbf{k} \quad x = \frac{a-n}{b} \quad \mathbf{l} \quad x = \frac{a-p}{n}$$

4 a
$$x=ab$$
 b $x=\frac{a}{d}$ c $x=\frac{2}{p}$ d $x=2n$ e $x=\frac{b}{a}$ f $x=\pm\sqrt{mn}$

EXERCISE 6G.1

- **1 a** x = 2, y = 3 **b** x = 6, y = 10 **c** x = 2, y = -6**d** x = 4, $y = 2\frac{1}{2}$ **e** x = 0, y = -4 **f** x = 2, y = 3
- **2 a** x=3, y=-2 **b** $x=\frac{2}{5}, y=\frac{11}{5}$ **c** x=3, y=4
 - **d** x = -1, y = -5 **e** x = -5, y = 1 **f** x = 2, y = -4
- **3 a** obtain 1=4 **b** no solution
- **4 a** obtain 2=2 **b** an infinite number of solutions

EXERCISE 6G.2

- **a** 6x = 6 **b** -y = 8 **c** 5x = 7 **d** -6x = -30 **e** 8y = 4 **f** -2y = -16
- **a** x = 2, y = -1 **b** x = -2, y = 5 **c** x = 3, y = 2
- **d** x=-2, y=-1 **e** x=5, y=-3 **f** x=4, y=-3