

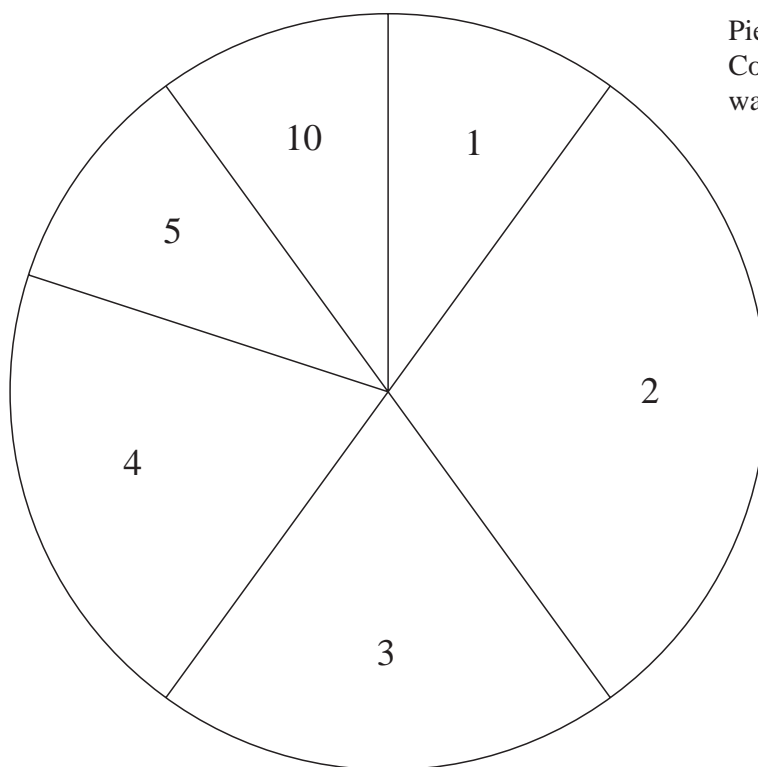
Practice Book *UNIT 5 Data Analysis*

## Answers

## 5.1 Frequency Tables: Discrete Ungrouped Data

1. (a)

<i>No. of Conkers</i>	<i>No. of Days</i>	<i>Angle (°)</i>
1	1	36
2	3	108
3	2	72
4	2	72
5	1	36
6	0	0
7	0	0
8	0	0
9	0	0
10	1	36



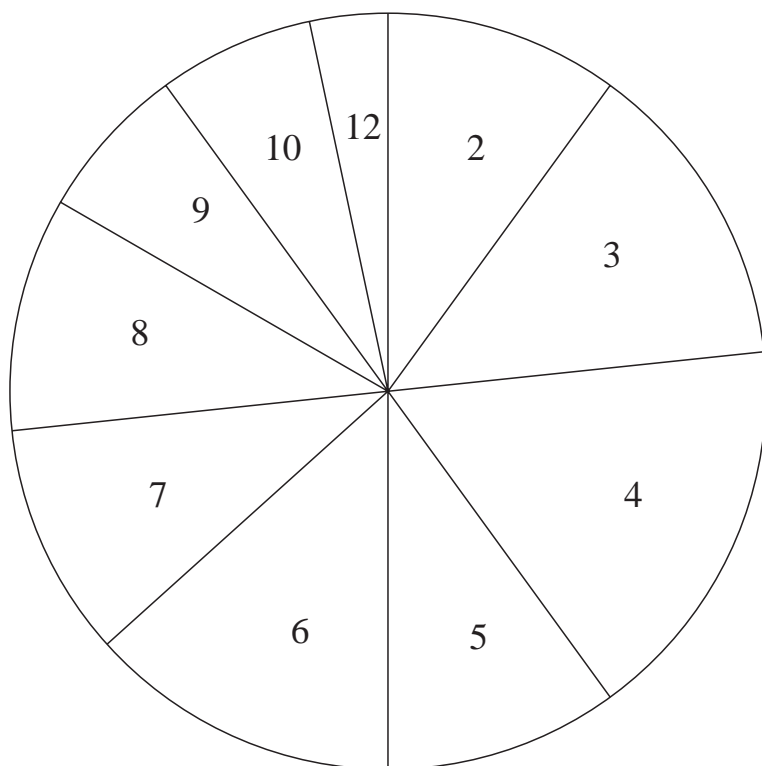
Pie Chart Showing Number of Conkers Collected in 2 weeks on way to school

- (b) The weather could have been very windy on the day Emma collected 10 conkers.

## 5.1

## Answers

2.	(a)	<i>No. of Videos Borrowed</i>	<i>No. of Occasions</i>	<i>Angle (°)</i>
		2	3	36
		3	4	48
		4	5	60
		5	3	36
		6	4	48
		7	3	36
		8	3	36
		9	2	24
		10	2	24
		11	0	0
		12	1	12
			<u>30</u>	<u>360</u>



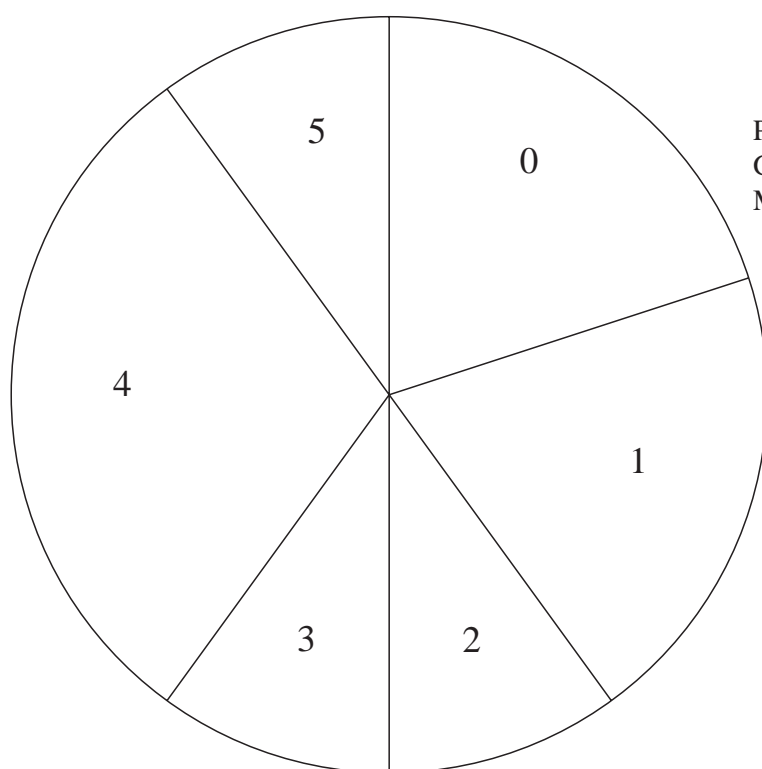
Pie Chart Showing Number of Videos borrowed each hour from Mr Rafiq's Video Library

- (b) 12  
 (c) 2  
 (d) 4

## 5.1

## Answers

3.	(a)	<i>No. of Goals</i>	<i>No. of Matches</i>	<i>Angle (°)</i>
		0	2	72
		1	2	72
		2	1	36
		3	1	36
		4	3	108
		5	1	36
			<u>10</u>	<u>360</u>



Pie Chart Showing Number of Goals Scored in Premier League Matches one Saturday

(b) 4

4.	(a)	15 °	(b)	<i>Score</i>	<i>Pupils</i>
				3	3
				4	6
				5	4
				6	1
				7	6
				8	2
				9	1
				10	1

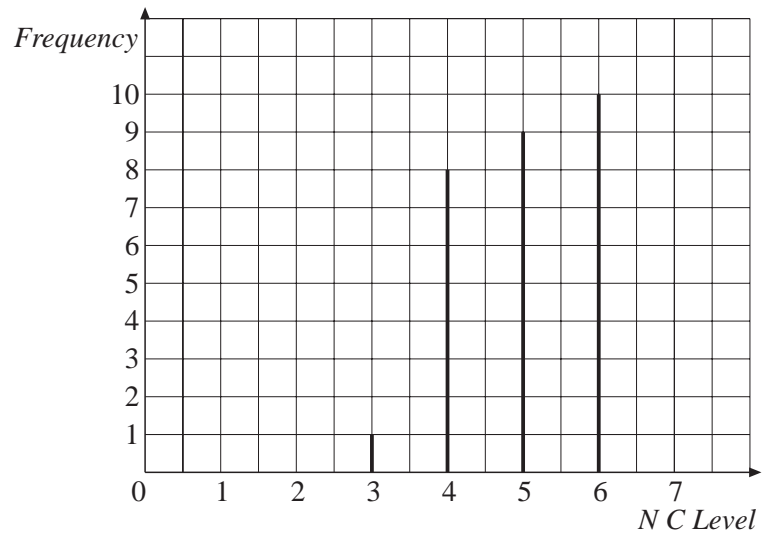
## 5.1

## Answers

5. (a)

<i>Level</i>	<i>No. of Pupils</i>
3	1
4	8
5	9
6	10

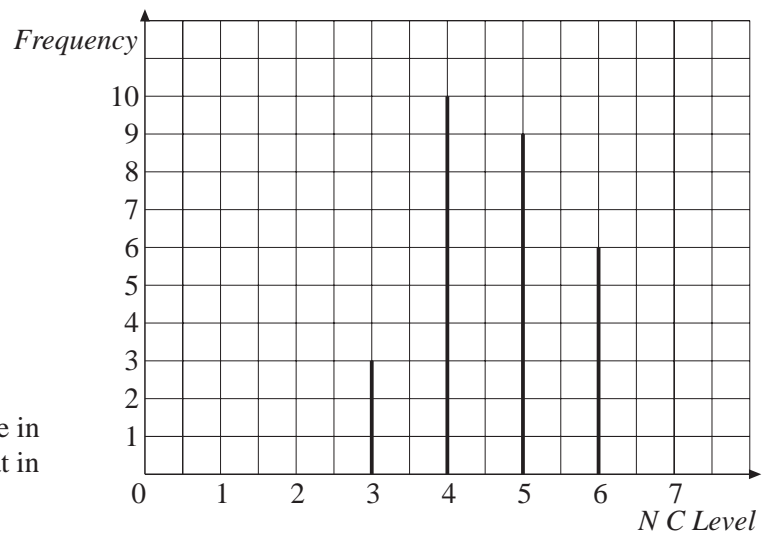
(b) Level 6



6. (a)

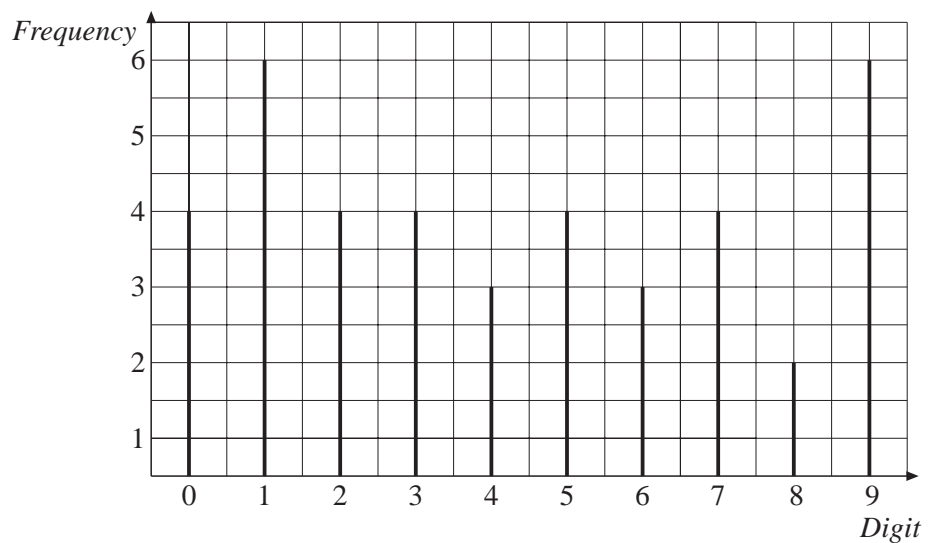
<i>Level</i>	<i>No. of Pupils</i>
3	3
4	10
5	9
6	6

(b) Generally, the performance in English was lower than that in Maths.



7. (a)

<i>Digits</i>	<i>No. of Times</i>
0	4
1	6
2	4
3	4
4	3
5	4
6	3
7	4
8	2
9	6

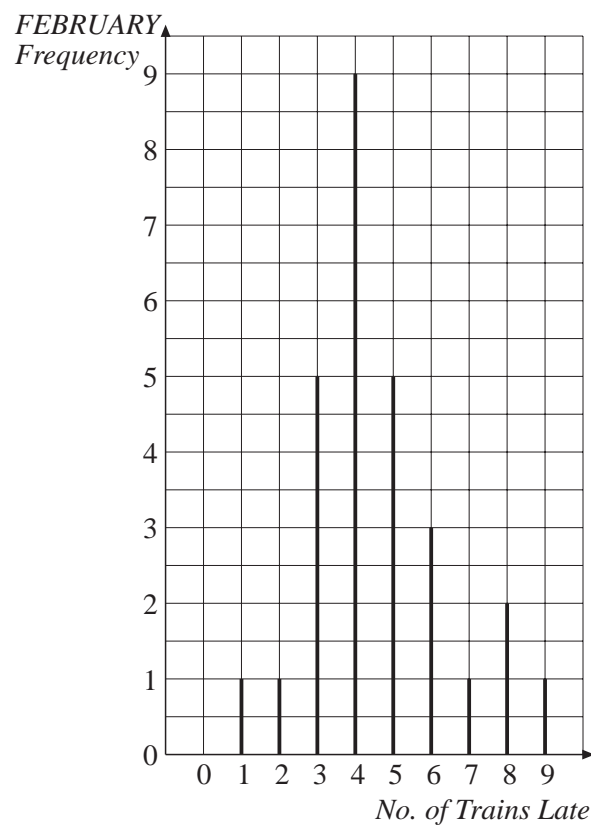
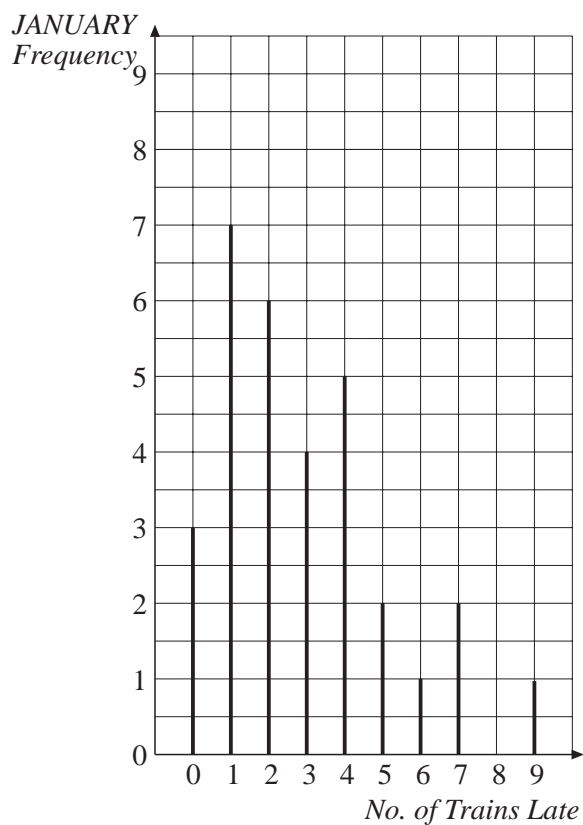


(b) Reasonably even spread of digits over a relatively small sample.

## 5.1

## Answers

8.	(a)	<i>No. of Trains Late</i>	<i>January</i>	<i>February</i>
		0	3	0
		1	7	1
		2	6	1
		3	4	5
		4	5	9
		5	2	5
		6	1	3
		7	2	1
		8	0	2
		9	1	1



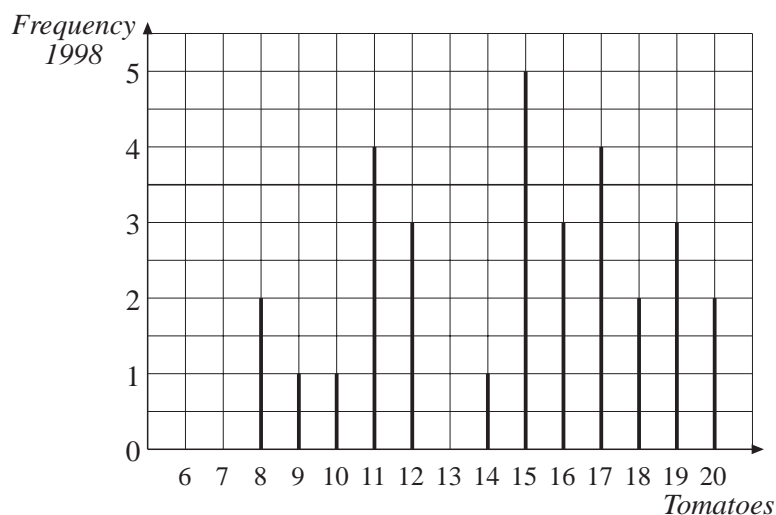
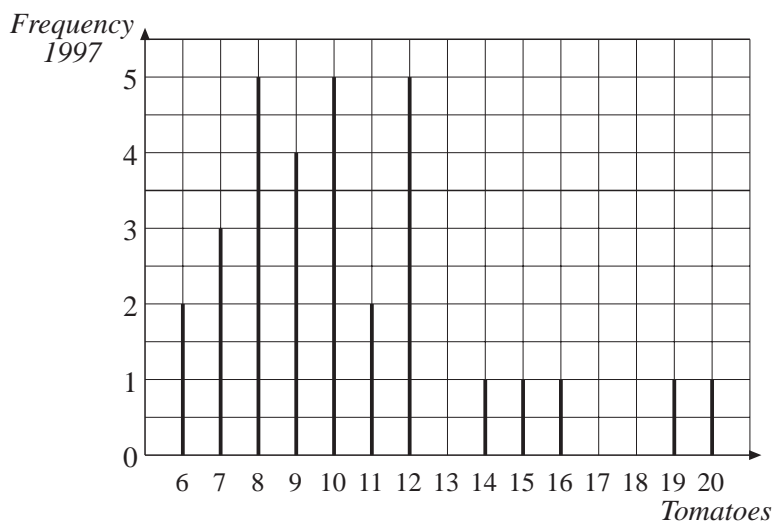
- (b) January  
 (c) Different length of months  
 (d) Quite possibly

## 5.1

## Answers

9. (a)

<i>No. of Tomatoes</i>	<i>1997</i>	<i>1998</i>
6	2	0
7	3	0
8	5	2
9	4	1
10	5	1
11	2	4
12	5	3
13	0	0
14	1	1
15	1	5
16	1	3
17	0	4
18	0	2
19	1	2
20	1	2



- (b) 1998 was a more productive year than 1997.

## 5.2 Mean, Median, Mode and Range

1.	<i>Mean</i>	<i>Median</i>	<i>Mode</i>	<i>Range</i>
(a)	5	4	3	6
(b)	11	11	12	5
(c)	7.5	7.5	none	5
(d)	5.5	5	5	7

## 5.2

## Answers

2.

<i>Score</i>	<i>Frequency</i>	<i>Score × Frequency</i>
0	2	0
1	6	6
2	8	16
3	3	9
4	0	0
5	1	5
Totals	20	36

$$\begin{aligned} \text{(b) Mean} &= \frac{36}{20} \\ &= 1.8 \end{aligned}$$

3.

<i>No. of Goals</i>	<i>Tally</i>	<i>Frequency</i>	<i>No. of Goals × Frequency</i>
0		5	0
1		10	10
2		7	14
3		4	12
4		2	8
5		1	5
6		1	6
Totals	30	30	55

$$\text{(b) Mean} = 1.83 \text{ (2 d.p.)}$$

$$\text{(c) Median} = 1.5$$

$$\text{(d) Mode} = 1 \text{ goal}$$

$$\text{(e) Range} = 6$$

$$4. \quad \text{Mean} = 76.68\text{p} \quad \text{Median} = 77\text{p} \quad \text{Mode} = 77\text{p}$$

$$5. \quad \text{(a) Mean} = 2.1 \text{ children} \quad \text{(b) Median} = 2 \text{ children}$$

(c) Because each family has at least 1 child – those in the class!

$$6. \quad \text{Mean} = 72.3$$

$$7. \quad \text{(a) Mean} = 5.24 \quad \text{Median} = 5 \quad \text{Mode} = 4$$

(b) Modal value

$$8. \quad \text{(a) Mean} = 2.44 \text{ vacuum cleaners} \quad \text{Median} = 2 \text{ vacuum cleaners} \quad \text{Mode} = 4 \text{ vacuum cleaners}$$

(b) Mode

$$9. \quad \text{(a)}$$

	<i>Class A</i>	<i>Class B</i>
Mean	6.88	6.88
Median	7	7
Mode	6 and 8	10

(b) None (c) Mode

## 5.2

Answers

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10.		<i>Mean</i>	<i>Median</i>	<i>Mode</i>
	Paul	72.65	72	72
	David	73.15	71	70

Paul is the better player because his mean is 72.65 compared with David's 73.15.

David is the better player because his median score is 71 compared with Paul's 72 and also he scores 70 (the mode) more often than Paul who gets 72 most frequently.