Stem-and-Leaf Diagrams

ANSWERS

1

The ages of 11 people at a climbing wall are
23, 41, 35, 28, 19, 37, 24, 46, 31, 28, 33

(a) The diagram on the left is drawn. Complete the ordered one. (b) Find the median. (c) Find the range.

in list order		ordered	
1	9	1	9
2	3 8 4 8	2	3 4 8 8
3	5 7 1 3	3	(1) 3 5 7
4	1 6	4	1 6

Key: **1** | **9** means 19

(b) Median 31

(c) Range 46 − 19 = 27

2

The times, in minutes, 11 students take to walk to school are
32, 18, 25, 41, 27, 15, 33, 29, 38, 22, 26

(a) Draw the diagram, then draw it again ordered. (b) Find the median. (c) Find the range.

in list order		ordered	
1	8 5	1	5 8
2	5 7 9 2 6	2	2 5 6 (7) 9
3	2 3 8	3	2 3 8
4	1	4	1

Key: 1 | 5 means 15

(b) Median 27 minutes

(c) Range 41 − 15 = 26

3

The marks of 13 students in a spelling test are
45, 52, 38, 47, 56, 41, 39, 50, 44, 58, 52, 35, 53

(a) Draw an ordered stem-and-leaf diagram, with a key. (b) Find the median. (c) Find the mode.

3	5 8 9
4	1 4 5 (7)
5	0 2 2 3 6 8

Key: 3 | 5 means 35

(b) Median 47

(c) Mode 52

4

The numbers of texts 11 friends sent on Saturday are
27, 14, 35, 22, 41, 19, 30, 26, 22, 38, 17

(a) Draw an ordered stem-and-leaf diagram, with a key. (b) Find the median. (c) Find the range.

1	4 7 9
2	2 2 (6) 7
3	0 5 8
4	1

Key: 1 | 4 means 14

(b) Median 26

(c) Range 41 − 14 = 27

5

The diagram shows the ages of 15 people in a choir.

(a) Write down the mode. (b) Find the median. (c) Find the range.

2	4 7
3	1 5 5 5 8
4	(0) 2 3 6 9
5	3 7
6	1

Key: **2** | **4** means 24

(a) Mode 35

(b) Median 40

(c) Range 61 − 24 = 37

6

The diagram shows the points 12 teams scored in a quiz.

(a) Write down the mode. (b) Find the median.

11	6 9
12	0 4 4 (8)
13	(2) 5 7
14	1 3 6

Key: **12** | **4** means 124 points

the 6th and 7th: 128 and 132

(a) Mode 124 points

(b) Median 130 points

7

The diagram shows how many push-ups 10 students did in one minute.

(a) Find the median. (b) Write down the mode.

1	5 8 8
2	2 (6)
3	(0) 4 7
4	2 5

Key: **1** | **5** means 15

halfway between 26 and 30

(a) Median 28

(b) Mode 18

8

Leah drew this diagram for 9 marks. She says the median is 30, the 5th leaf. Explain her mistake and find the median.

2	6 1 9
3	4 0 7 2
4	8 3

Key: **2** | **6** means 26

her leaves are not in order

Median 32

Stem-and-Leaf Diagrams *further practice*

ANSWERS

9

The ages of 15 people on a coach trip are
34, 52, 47, 28, 61, 45, 39, 53, 44, 30, 26, 58, 41, 47, 65

(a) Draw an ordered stem-and-leaf diagram, with a key. (b) Find the median. (c) Find the range.

2	6 8
3	0 4 9
4	1 4 (5) 7 7
5	2 3 8
6	1 5

Key: 2 | 6 means 26

(b) Median 45

(c) Range 65 − 26 = 39

10

The diagram shows how many tickets were sold for 14 shows. Find the median.

3	2 6 8
4	1 4 5 (9)
5	(0) 3 3 7
6	2 4 8

Key: **3** | **2** means 32

halfway between 49 and 50

Median 49.5

11

The diagram shows how many people visited a museum on 11 days.

(a) Write down the mode. (b) Find the range.

20	8 9
21	3 5 5 7
22	0 4
23	1 6 9

Key: **21** | **5** means 215 visitors

(a) Mode 215 visitors

(b) Range 239 − 208 = 31

12

The diagrams show the scores of 9 players in two teams. Key: 2 | 4 means 24.
Which team has the higher median? Show how you know.

Reds	
2	4 8
3	1 3 (6) 9
4	2 5 7

Blues	
2	9
3	0 4 5 (8) 8
4	1 3 6

Reds 36, Blues 38

Answer Blues

13

The diagram shows the lengths, in cm, of 11 snakes at a zoo. One leaf is missing.
The range is 35 cm.
Find the missing length.

1	7 9
2	2 5 6
3	0 4 8
4	3 5
5	[2]

Key: **1** | **7** means 17 cm

17 + 35 = 52

Answer 52 cm

14

Ravi says the range of this diagram is 8 − 1 = 7. Explain his mistake and find the range.

5	1 3 6
6	0 4 4 7
7	2 5 8

Key: **5** | **1** means 51

he did not use the key: 51 to 78

Range 78 − 51 = 27

15

Mia says the mode of this diagram is 3, because the 3 row has the most leaves.
Explain why she is wrong and find the mode.

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

Key: **1** | **4** means 14

the mode is a value: 42 comes up twice

Mode 42

16

The diagram shows how long, in minutes, 9 people spent at a gym. The median is 34.
One more person spends 61 minutes there. Sam says the median is still 34. Is he right? Explain.

2	5 8
3	1 4 (4) 7
4	0 6
5	2

Key: **2** | **5** means 25 minutes

10 values: halfway between 34 and 37

Answer No: 35.5