Stem and Leaf

Grade 2 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (30 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 50 marks.

Warm-up

1 Key: 2 | 4 means 24. The stem and leaf diagram shows 17 values. How many values are in the stem and leaf diagram? **[1 mark]**

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

Answer _____

2 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. Write down the smallest value. **[1 mark]**

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

Answer _____

3 Key: 2 | 4 means 24. The stem and leaf diagram shows 17 values. Write down the largest value. **[1 mark]**

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

Answer _____

4 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. How many values are greater than 30? **[1 mark]**

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

Answer _____

5 Key: 2 | 4 means 24. The stem and leaf diagram shows 14 values. How many values are less than 20? **[1 mark]**

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

Answer _____

Core

6 Key: 2 | 4 means 24. The stem and leaf diagram shows 17 values. Work out the range. **[2 marks]**

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

Answer _____

7 Key: 2 | 4 means 24. The stem and leaf diagram shows 13 values. Find the median. **[2 marks]**

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

Answer _____

8 Key: 2 | 4 means 24. The stem and leaf diagram shows 13 values. Find the mode (the most common value). **[2 marks]**

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

Answer _____

9 Key: 2 | 4 means 24. The stem and leaf diagram shows 14 values. What fraction of the values are between 20 and 39 inclusive? Give your answer in simplest form. **[2 marks]**

Stem	Leaf
2	3 3 5
3	7
4	1 1 1 4 7
5	5 7 7 7 8

Answer _____

10 Key: 2 | 4 means 24. The stem and leaf diagram shows 17 values. Work out the median and the range. **[2 marks]**

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

Answer _____

Stretch

11 Key: 2 | 4 means 24. The stem and leaf diagram shows 15 values. Find the lower quartile and upper quartile. **[3 marks]**

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

Answer _____

12 Key: 2 | 4 means 24. The stem and leaf diagram shows 15 values. Work out the interquartile range. **[3 marks]**

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

Answer _____

13 Key: 2 | 4 means 24. The stem and leaf diagram shows 17 values. Work out the mean. Give your answer to 1 decimal place. **[3 marks]**

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

Answer _____

14 Key: 2 | 4 means 24. The stem and leaf diagram shows 15 values. A value of 45 is added. Find the new median. **[3 marks]**

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

Answer _____

15 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. How many values are within 5 of the median? **[3 marks]**

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

Answer _____

Challenge

16 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. Work out the mean and compare with the median. **[4 marks]**

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

Answer _____

17 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. Find the percentage of values above 40. Give your answer to 1 decimal place. **[4 marks]**

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

Answer _____

18 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. Work out the sum of the two middle-quartile values. **[4 marks]**

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

Answer _____

19 Key: 2 | 4 means 24. The stem and leaf diagram shows 17 values. A value of 5 is removed from the data set (the smallest). Find the new range. **[4 marks]**

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

Answer _____

20 Key: 2 | 4 means 24. The stem and leaf diagram shows 16 values. Write down the modal stem. **[4 marks]**

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

Answer _____