

MATHS



MODEL ANSWERS

VERTICAL LINE DIAGRAMS

SCORE

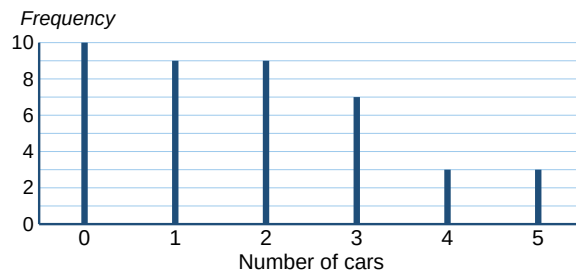
/185

PERCENTAGE

%

STEMUP

- 1 The vertical line diagram shows the number of cars owned by each household in a road. How many households had 3 cars?

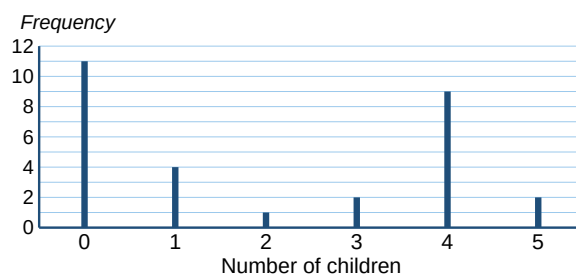


Read the height of the line above 3: 7

7

1 / 1

- 2 The vertical line diagram shows the number of children in each family on a street. Write down the mode.

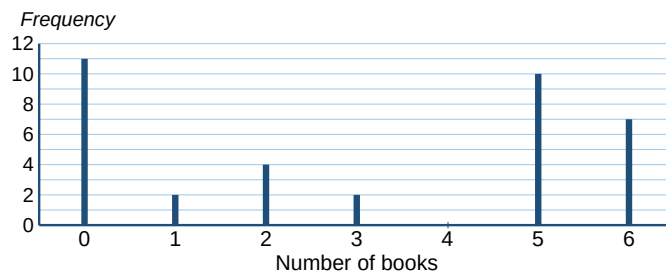


The mode is the value with the tallest line: 0

0

1 / 1

- 3 The vertical line diagram shows the number of books read by each pupil in a month. How many pupils are there altogether?

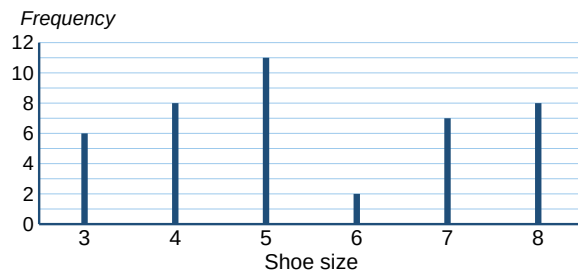


$$11 + 2 + 4 + 2 + 0 + 10 + 7 = 36$$

36

1 / 1

- 4 The vertical line diagram shows the shoe sizes of the pupils in a group.
How many pupils had shoe size 6?

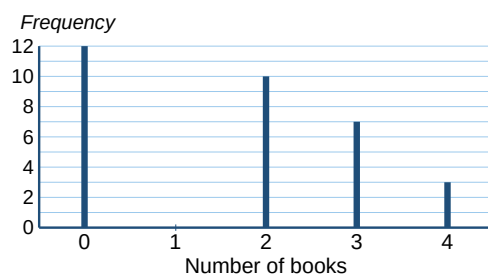


Read the height of the line above 6: 2

2

1 / 1

- 5 The vertical line diagram shows the number of books read by each pupil in a month.
Write down the mode.

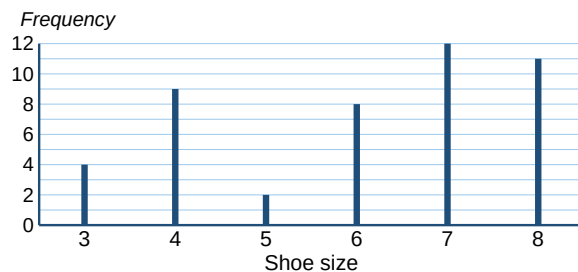


The mode is the value with the tallest line: 0

0

1 / 1

- 6 The vertical line diagram shows the shoe sizes of the pupils in a group.
How many pupils are there altogether?

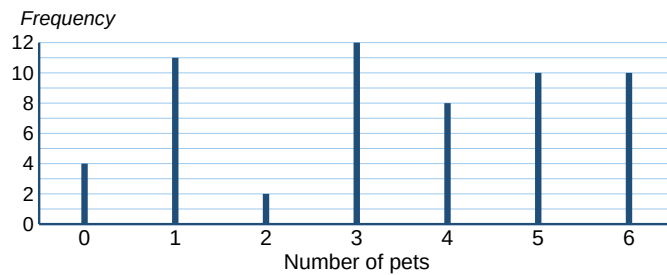


$$4 + 9 + 2 + 8 + 12 + 11 = 46$$

46

1 / 1

- 7 The vertical line diagram shows the number of pets owned by each pupil in a class.
How many pupils had 1 pet?

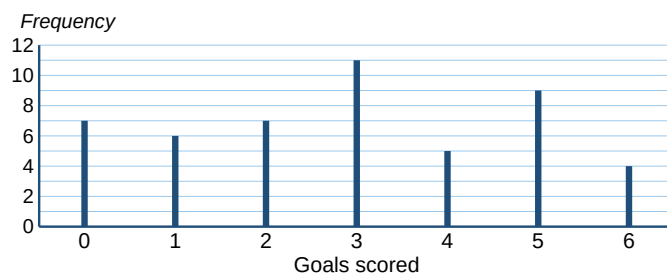


Read the height of the line above 1: 11

11

1 / 1

- 8 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
Write down the mode.

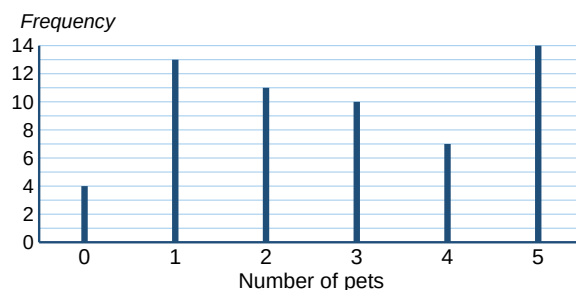


The mode is the value with the tallest line: 3

3

1 / 1

- 9 The vertical line diagram shows the number of pets owned by each pupil in a class.
The scale goes up in 2s.
How many pupils had 1 pet?

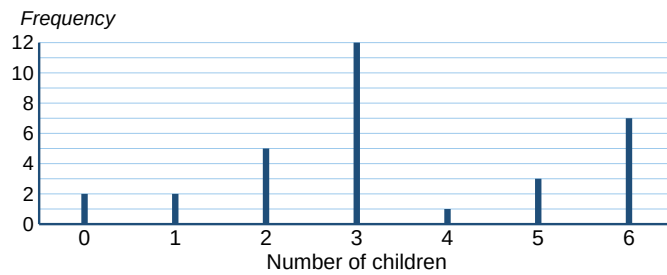


The line is halfway between 12 and 14, so it is 13

13

1 / 1

- 10** The vertical line diagram shows the number of children in each family on a street.
1 of the families are in the same group. Which value is that group?

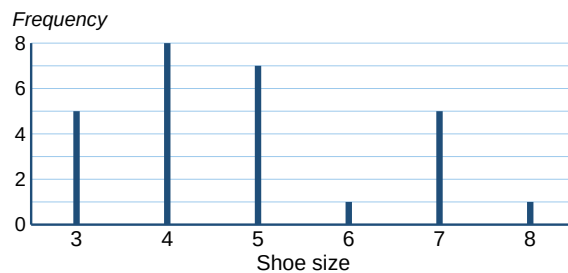


Find the line with height 1: it is above 4

4

/ 1

- 11** The vertical line diagram shows the shoe sizes of the pupils in a group.
Write down the mode.



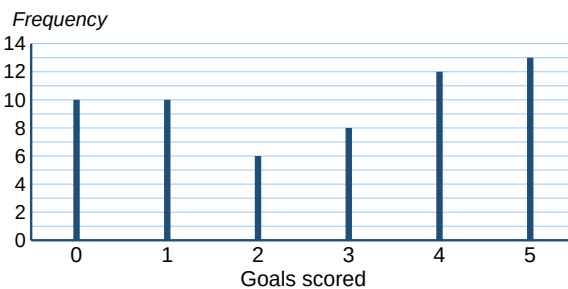
The mode is the value with the tallest line: 4

4

/ 1

- 12** The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
The scale goes up in 2s.

How many matches had 5 goals scored?



The line is halfway between 12 and 14, so it is 13

13

/ 1

- 13 The vertical line diagram shows the shoe sizes of the pupils in a group. 6 of the pupils are in the same group. Which value is that group?

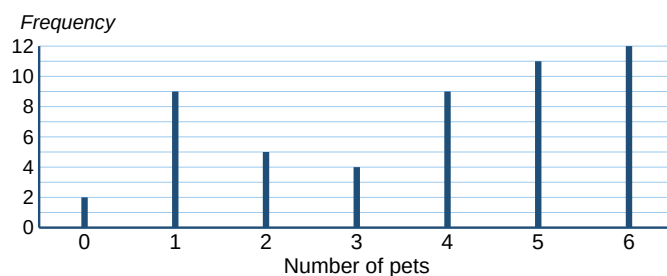


Find the line with height 6: it is above 4

4

1 / 1

- 14 The vertical line diagram shows the number of pets owned by each pupil in a class. Write down the mode.

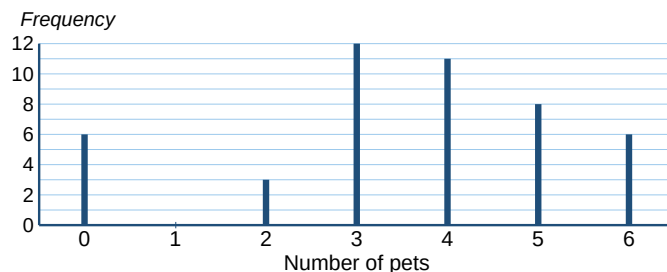


The mode is the value with the tallest line: 6

6

1 / 1

- 15 The vertical line diagram shows the number of pets owned by each pupil in a class. How many pupils are there altogether?



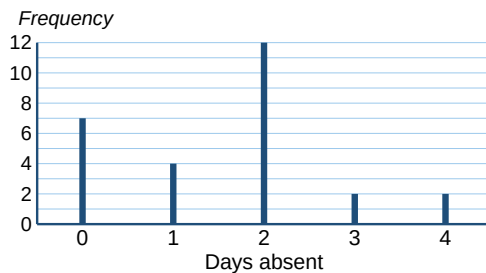
$$6 + 0 + 3 + 12 + 11 + 8 + 6 = 46$$

46

1 / 1

- 16** The vertical line diagram shows the number of days each pupil was absent from school in a term.

7 of the pupils are in the same group. Which value is that group?



Find the line with height 7: it is above 0

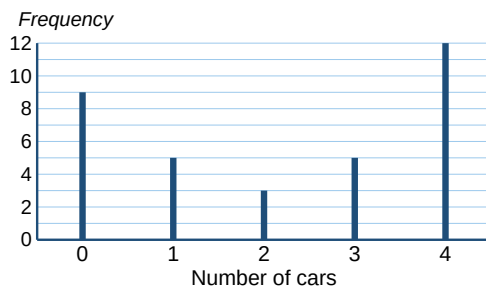
0

1 / 1

- 17** The vertical line diagram shows the number of cars owned by each household in a road.

The scale goes up in 2s.

How many households had 0 cars?



The line is halfway between 8 and 10, so it is 9

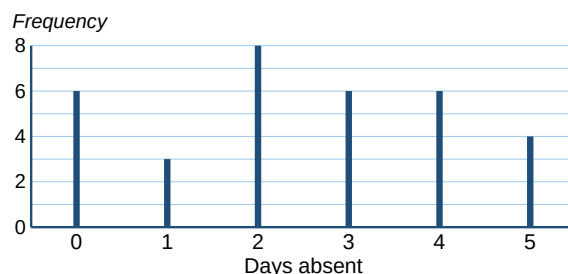
9

1 / 1

- 18** The vertical line diagram shows the number of days each pupil was absent from school in a term.

(a) Write down the mode.

(b) How many pupils are there with the modal value?

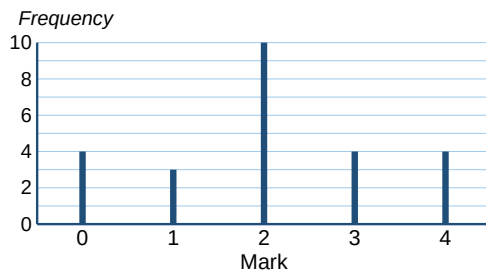


*The tallest line is above 2
its height is 8*

(a) 2 (b) 8

1 / 1

- 19 The vertical line diagram shows the marks scored by pupils in a quiz.
Work out the range.

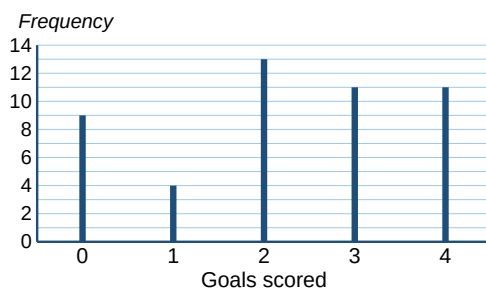


Largest - smallest = 4 - 0 = 4

4

1 / 1

- 20 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
The scale goes up in 2s.
How many matches had 3 goals scored?

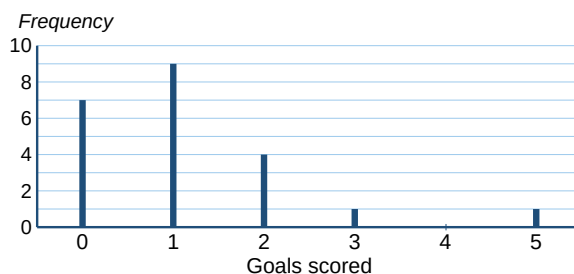


The line is halfway between 10 and 12, so it is 11

11

1 / 1

- 21 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
(a) Write down the mode.
(b) How many matches are there with the modal value?



The tallest line is above 1 its height is 9

(a) 1 (b) 9

1 / 1

- 22 The vertical line diagram shows the number of books read by each pupil in a month. Complete the frequency table.

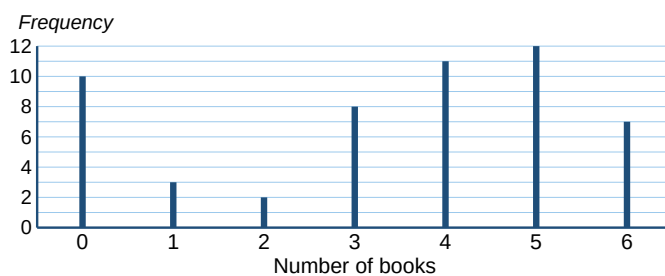


Books	Frequency
0	7
1	4
2	2
3	2
4	4
5	1

Read the height of each line: 0: 7, 4: 4, 5: 1

1 / 1

- 23 The vertical line diagram shows the number of books read by each pupil in a month. Work out the range.

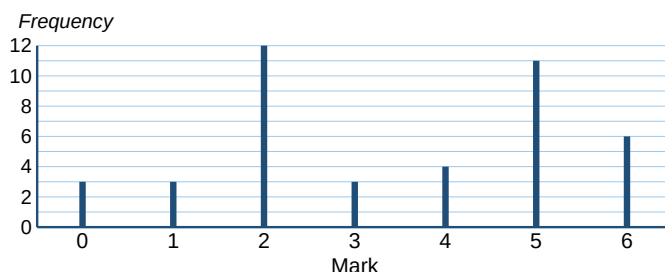


Largest - smallest = $6 - 0 = 6$

6

1 / 1

- 24 The vertical line diagram shows the marks scored by pupils in a quiz.
(a) Write down the mode.
(b) How many pupils are there with the modal value?

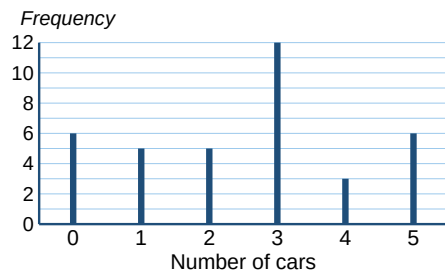


The tallest line is above 2
its height is 12

(a) 2 (b) 12

1 / 1

- 25 The vertical line diagram shows the number of cars owned by each household in a road. Complete the frequency table.

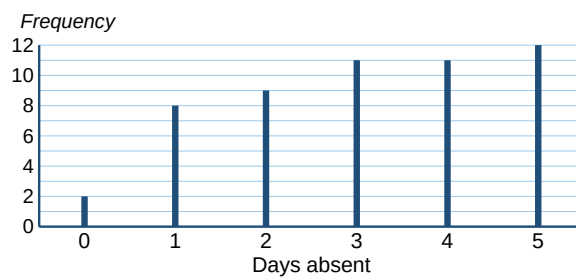


Cars	Frequency
0	6
1	5
2	5
3	12
4	3
5	6

Read the height of each line: 1: 5, 2: 5, 5: 6

1 / 1

- 26 The vertical line diagram shows the number of days each pupil was absent from school in a term. Work out the range.

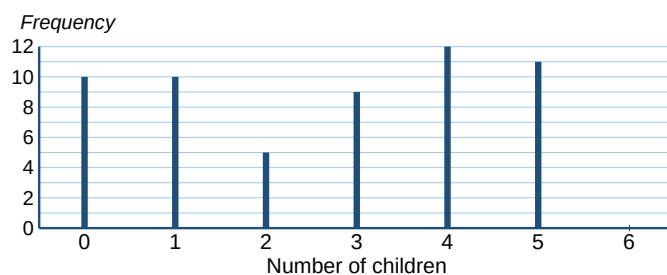


Largest - smallest = $5 - 0 = 5$

5

1 / 1

- 27 The vertical line diagram shows the number of children in each family on a street. How many more families had 3 children than had 2 children?

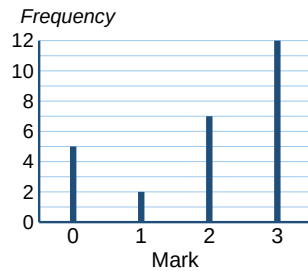


$9 - 5 = 4$

4

1 / 1

- 28 The vertical line diagram shows the marks scored by pupils in a quiz. Complete the frequency table.

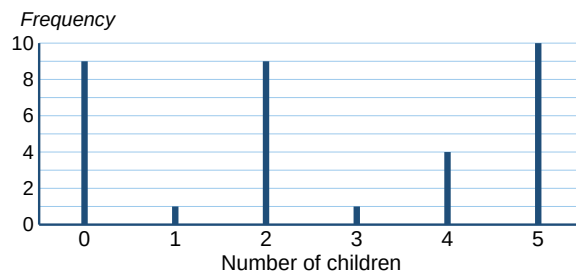


Mark	Frequency
0	5
1	2
2	7
3	12

Read the height of each line: 1: 2, 2: 7

/ 1

- 29 The vertical line diagram shows the number of children in each family on a street. Work out the range.



Largest - smallest = 5 - 0 = 5

5

/ 1

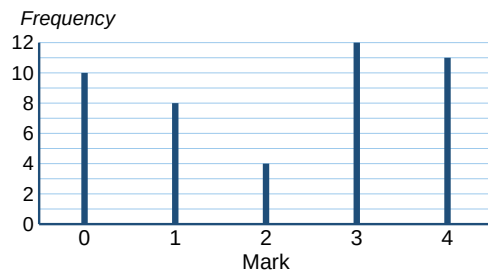
- 30 Gareth records the shoe sizes of the pupils in a group. Here are the results.
4, 7, 7, 7, 3, 6, 4, 7, 3, 6, 6, 3, 3, 5, 4, 5, 7, 7, 6, 7
Complete the frequency table.

Shoe size	Frequency
3	4
4	3
5	2
6	4
7	7

*Count how many times each value appears
check the frequencies add to 20*

/ 1

- 31 The vertical line diagram shows the marks scored by pupils in a quiz.
How many more pupils scored 3 marks than scored 2 marks?

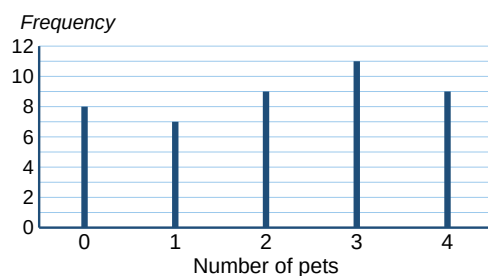


$$12 - 4 = 8$$

8

1 / 1

- 32 The vertical line diagram shows the number of pets owned by each pupil in a class.
Work out the range.



$$\text{Largest} - \text{smallest} = 4 - 0 = 4$$

4

1 / 1

- 33 Jess records the number of children in each family on a street. Here are the results.
4, 1, 0, 1, 2, 4, 1, 2, 1, 4, 2, 1, 1, 1, 4, 1, 3, 1, 2, 4
Complete the frequency table.

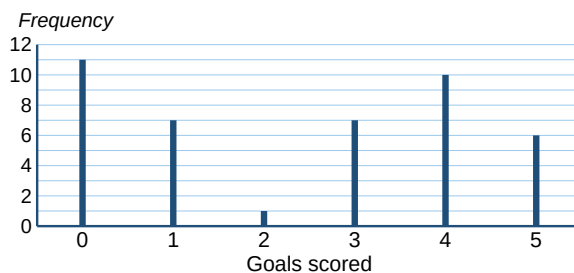
Number of children	Frequency
0	1
1	9
2	4
3	1
4	5

Count how many times each value appears
check the frequencies add to 20

1 / 1

- 34 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.

How many more matches had 5 goals scored than had 2 goals scored?



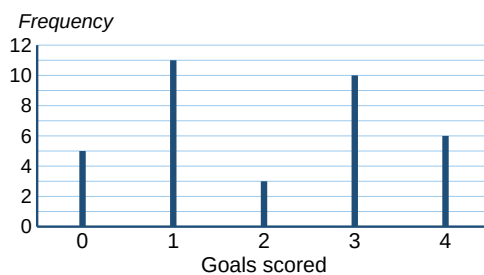
$$6 - 1 = 5$$

5

1 / 1

- 35 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.

Work out the range.



$$\text{Largest} - \text{smallest} = 4 - 0 = 4$$

4

1 / 1

- 36 Evan records the number of children in each family on a street. Here are the results.

1, 2, 3, 4, 3, 4, 1, 0, 2, 4, 0, 1, 3, 4, 0

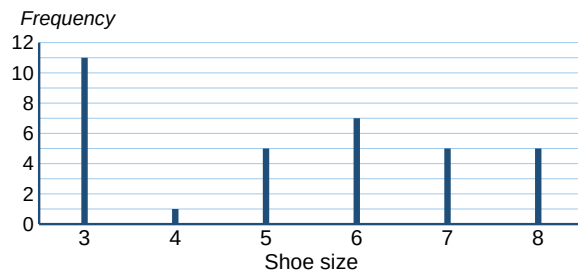
Complete the frequency table.

Number of children	Frequency
0	3
1	3
2	2
3	3
4	4

Count how many times each value appears
check the frequencies add to 15

1 / 1

- 37 The vertical line diagram shows the shoe sizes of the pupils in a group.
How many more pupils had shoe size 6 than had shoe size 8?

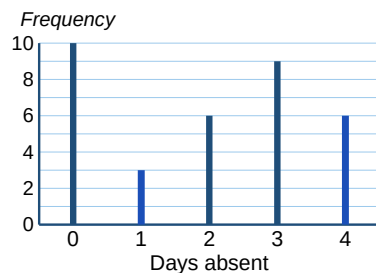


$$7 - 5 = 2$$

2

1 / 1

- 38 The table shows the number of days each pupil was absent from school in a term.
Complete the vertical line diagram.



Days absent	Frequency
0	10
1	3
2	6
3	9
4	6

Use the table: lines above 1 and 4 have heights
3 and 6

1 / 1

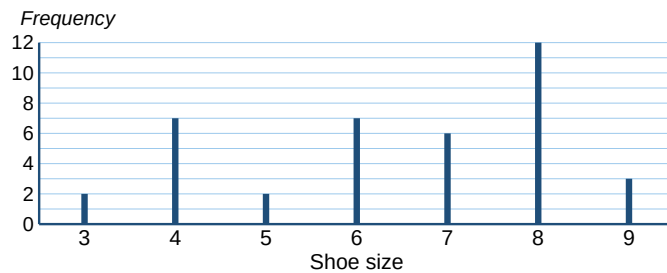
- 39 Nia records the number of books read by each pupil in a month. Here are the results.
1, 2, 3, 4, 0, 0, 0, 0, 4, 3, 2, 2, 1, 0, 1, 3
Complete the frequency table.

Number of books	Frequency
0	4
1	3
2	3
3	3
4	2

Count how many times each value appears
check the frequencies add to 15

1 / 1

- 40 The vertical line diagram shows the shoe sizes of the pupils in a group.
How many more pupils had shoe size 9 than had shoe size 5?

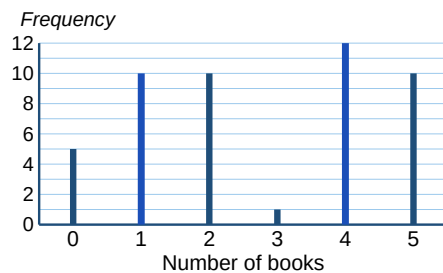


$$3 - 2 = 1$$

/

1 / 1

- 41 The table shows the number of books read by each pupil in a month.
Complete the vertical line diagram.



Books	Frequency
0	5
1	10
2	10
3	1
4	12
5	10

Use the table: lines above 1 and 4 have heights 10 and 12

2 / 2

- 42 Bethan records the number of days each pupil was absent from school in a term. Here are the results.

1, 4, 4, 3, 1, 4, 1, 1, 0, 2, 1, 2, 0, 3, 1, 3, 1, 1, 3, 1

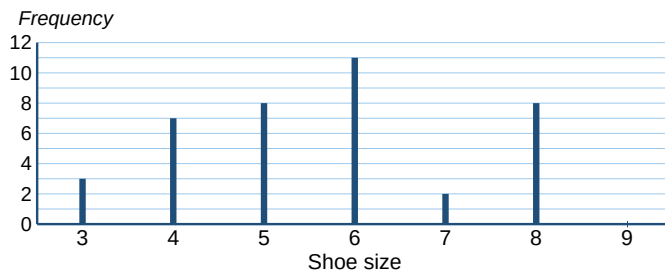
Complete the frequency table.

Days absent	Frequency
0	2
1	9
2	2
3	4
4	3

Count how many times each value appears
check the frequencies add to 20

2 / 2

- 43 The vertical line diagram shows the shoe sizes of the pupils in a group.
How many more pupils had shoe size 8 than had shoe size 9?

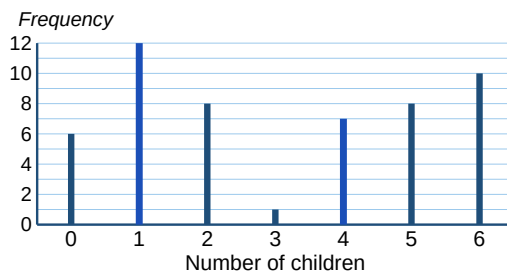


$$8 - 0 = 8$$

8

2 / 2

- 44 The table shows the number of children in each family on a street.
Complete the vertical line diagram.



Children	Frequency
0	6
1	12
2	8
3	1
4	7
5	8
6	10

Use the
table:
lines
above 1
and 4
have
heights
12 and 7

2 / 2

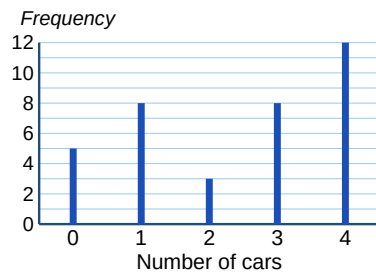
- 45 Nerys records the marks scored by pupils in a quiz. Here are the results.
3, 3, 3, 0, 1, 3, 3, 2, 2, 0, 3, 1, 3, 2, 3, 3
Complete the frequency table.

Mark	Frequency
0	2
1	2
2	3
3	9

Count how many times each value appears
check the frequencies add to 16

2 / 2

- 46 The table shows the number of cars owned by each household in a road.
Draw a vertical line diagram for the data.



Cars	Frequency
0	5
1	8
2	3
3	8
4	12

Draw a vertical line above each value, with height equal to its frequency: 0: 5, 1: 8, 2: 3, 3: 8, 4: 12

2 / 2

- 47 The table shows the shoe sizes of the pupils in a group.
Complete the vertical line diagram.

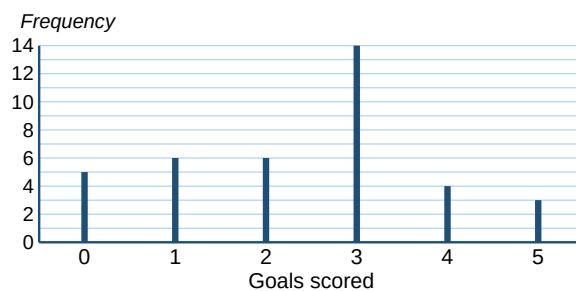


Shoe size	Frequency
3	11
4	12
5	1
6	9
7	2

Use the table: lines above 4 and 7 have heights 12 and 2

2 / 2

- 48 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
The scale goes up in 2s.
How many matches are there altogether?



$$5 + 6 + 6 + 14 + 4 + 3 = 38$$

38

2 / 2

- 49 The table shows the shoe sizes of the pupils in a group.
Draw a vertical line diagram for the data.

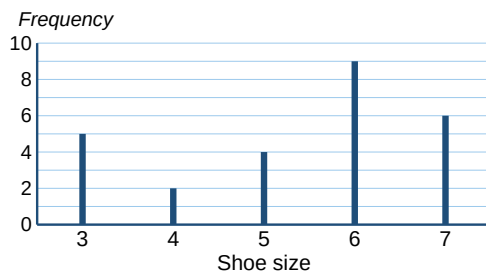


Shoe size	Frequency
3	1
4	6
5	2
6	7
7	8

Draw a vertical line above each value, with height equal to its frequency: 3: 1, 4: 6, 5: 2, 6: 7, 7: 8

2 / 2

- 50 The vertical line diagram shows the shoe sizes of the pupils in a group.
How many pupils had a shoe size between 6 and 7, including 6 and 7?

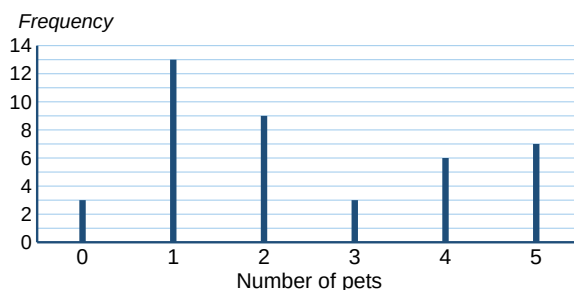


$$9 + 6 = 15$$

15

2 / 2

- 51 The vertical line diagram shows the number of pets owned by each pupil in a class.
The scale goes up in 2s.
How many pupils are there altogether?

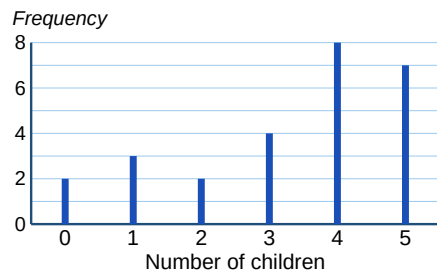


$$3 + 13 + 9 + 3 + 6 + 7 = 41$$

41

2 / 2

- 52 The table shows the number of children in each family on a street.
Draw a vertical line diagram for the data.

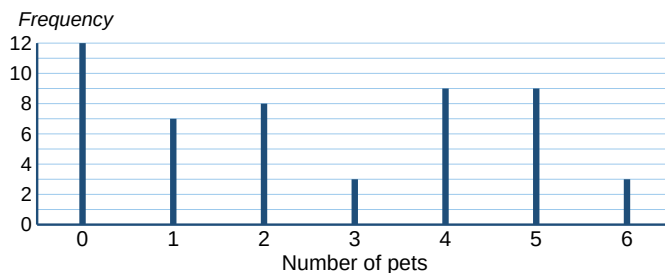


Children	Frequency
0	2
1	3
2	2
3	4
4	8
5	7

Draw a vertical line above each value, with height equal to its frequency: 0: 2, 1: 3, 2: 2, 3: 4, 4: 8, 5: 7

2 / 2

- 53 The vertical line diagram shows the number of pets owned by each pupil in a class.
How many pupils had at least 5 pets?

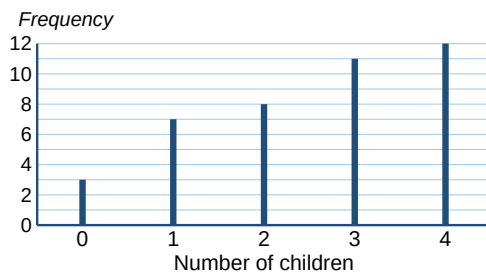


$$9 + 3 = 12$$

12

2 / 2

- 54 The vertical line diagram shows the number of children in each family on a street.
Work out the median.

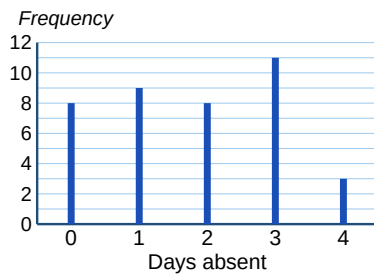


41 values
the median is the 21st value
counting along the lines it is 3

3

2 / 2

- 55 The table shows the number of days each pupil was absent from school in a term.
Draw a vertical line diagram for the data.

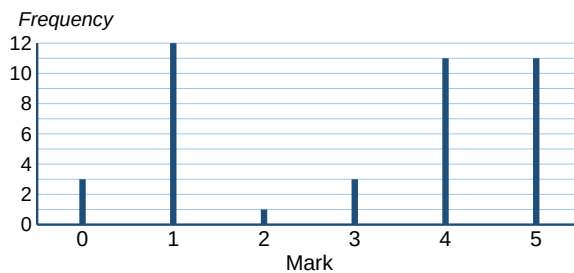


Days absent	Frequency
0	8
1	9
2	8
3	11
4	3

Draw a vertical line above each value, with height equal to its frequency: 0: 8, 1: 9, 2: 8, 3: 11, 4: 3

2 / 2

- 56 The vertical line diagram shows the marks scored by pupils in a quiz.
How many pupils scored between 3 and 5 marks, including 3 and 5?



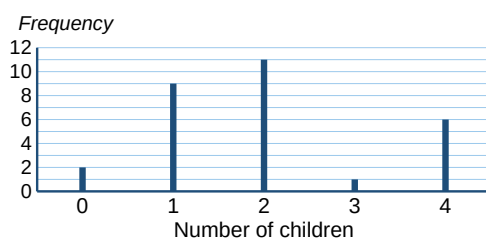
$$3 + 11 + 11 = 25$$

25

2 / 2

- 57 The vertical line diagram shows the number of children in each family on a street.
Write down whether each statement is true or false.

- (a) The range of the values is 4.
(b) More families had 4 children than had 1 child.
(c) The mode is 2.

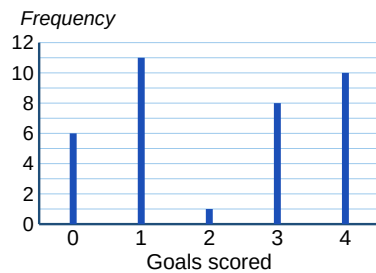


Check each statement against the diagram: (a) true (b) false (c) true

(a) true (b) false (c) true

2 / 2

- 58 The table shows the number of goals scored by a hockey team in each of its matches. Draw a vertical line diagram for the data.

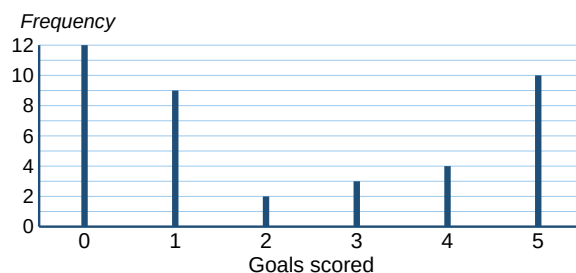


Goals scored	Frequency
0	6
1	11
2	1
3	8
4	10

Draw a vertical line above each value, with height equal to its frequency: 0: 6, 1: 11, 2: 1, 3: 8, 4: 10

2 / 2

- 59 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches. In how many matches were there fewer than 3 goals?

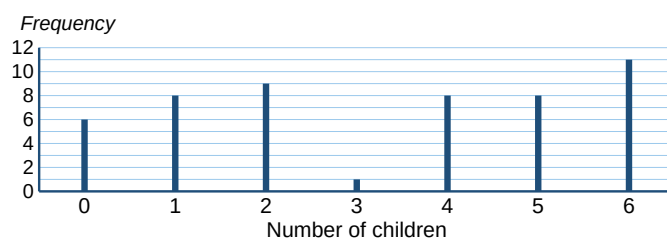


$$12 + 9 + 2 = 23$$

23

2 / 2

- 60 The vertical line diagram shows the number of children in each family on a street. Write down whether each statement is true or false.
- There are 51 families altogether.
 - More families had 5 children than had 2 children.
 - The range of the values is 7.

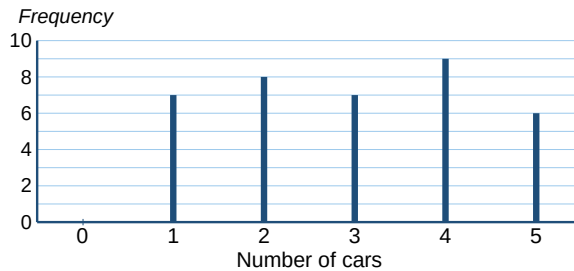


Check each statement against the diagram: (a) true (b) false (c) false

(a) true (b) false (c) false

2 / 2

- 61 The vertical line diagram shows the number of cars owned by each household in a road. Work out the median.



37 values

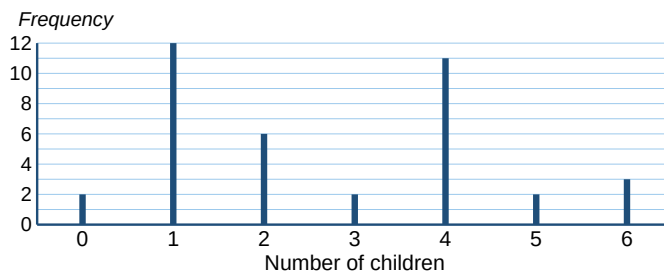
the median is the 19th value

counting along the lines it is 3

3

2 / 2

- 62 The vertical line diagram shows the number of children in each family on a street. How many families had at least 3 children?



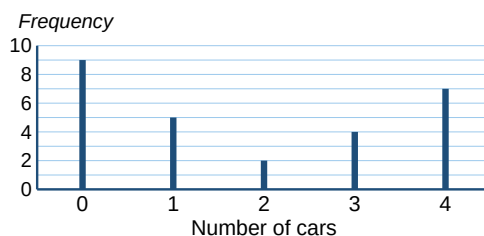
$$2 + 11 + 2 + 3 = 18$$

18

2 / 2

- 63 The vertical line diagram shows the number of cars owned by each household in a road. Write down whether each statement is true or false.

- (a) The mode is 0.
 (b) The range of the values is 5.
 (c) There are 27 households altogether.

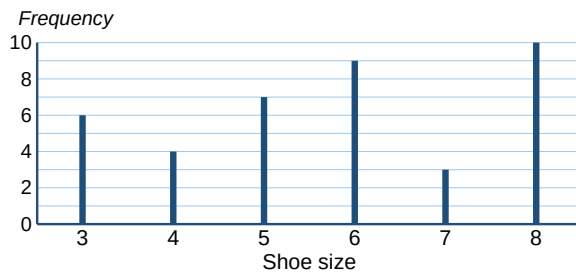


Check each statement against the diagram: (a) true (b) false (c) true

(a) true (b) false (c) true

2 / 2

- 64 The vertical line diagram shows the shoe sizes of the pupils in a group.
Work out the median.



39 values

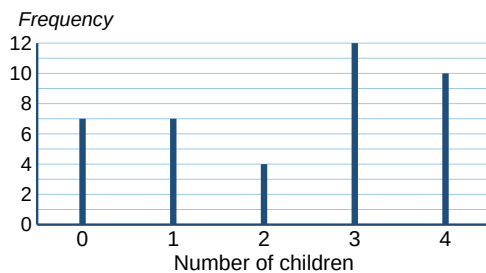
the median is the 20th value

counting along the lines it is 6

6

2 / 2

- 65 The vertical line diagram shows the number of children in each family on a street.
How many families had fewer than 2 children?



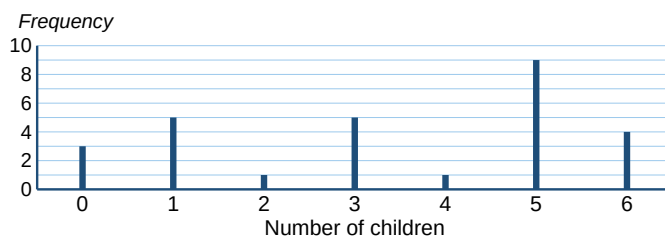
$7 + 7 = 14$

14

2 / 2

- 66 The vertical line diagram shows the number of children in each family on a street.
Write down whether each statement is true or false.

- (a) More families had 2 children than had 3 children.
(b) The mode is 5.
(c) There are 27 families altogether.

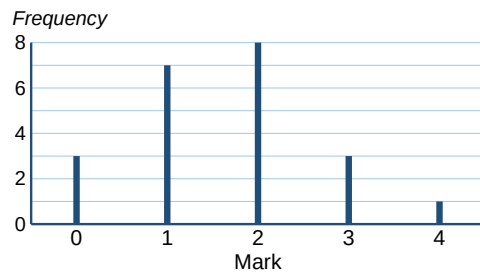


Check each statement against the diagram: (a) false (b) true (c) false

(a) false (b) true (c) false

2 / 2

- 67 The vertical line diagram shows the marks scored by pupils in a quiz.
Work out the median.

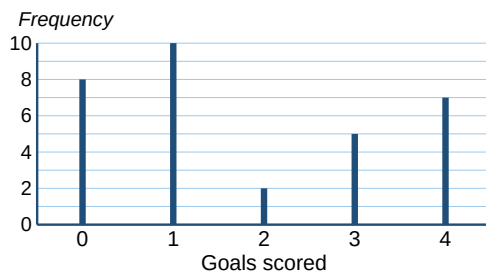


22 values
the median is halfway between the
11th and 12th values
these are 2 and 2, so the median is
2

2

2 / 2

- 68 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
In how many matches were there between 1 and 2 goals, including 1 and 2?

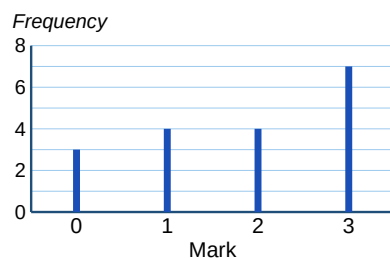


$$10 + 2 = 12$$

12

2 / 2

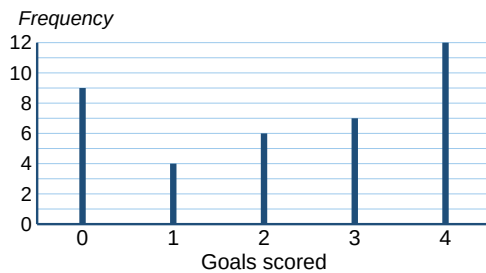
- 69 Dafydd records the marks scored by pupils in a quiz. Here are the results.
2, 0, 3, 3, 3, 0, 2, 1, 0, 1, 2, 2, 3, 3, 1, 3, 1, 3
Draw a vertical line diagram to show this data.



Count each value: 0: 3, 1: 4, 2: 4, 3: 7
draw a line of that height above each value

2 / 2

- 70 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
Work out the median.

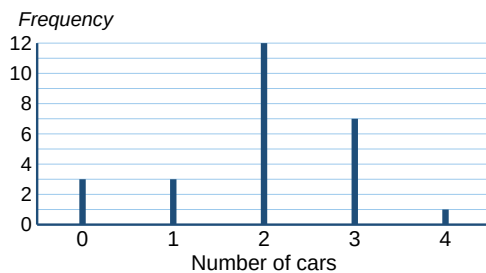


38 values
the median is halfway between the
19th and 20th values
these are 2 and 3, so the median is
2.5

2.5

2 / 2

- 71 The vertical line diagram shows the number of cars owned by each household in a road.
How many households had more than 2 cars?

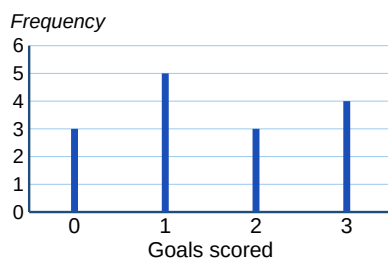


$$7 + 1 = 8$$

8

2 / 2

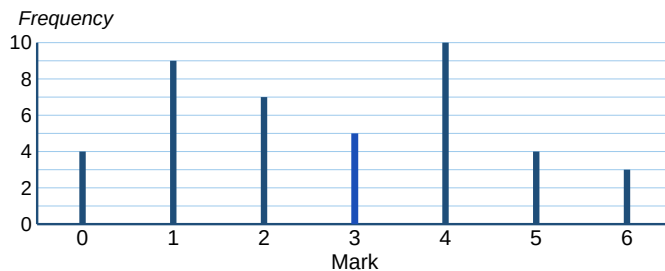
- 72 Evan records the number of goals scored by a hockey team in each of its matches. Here are the results.
2, 3, 1, 2, 0, 0, 3, 2, 0, 3, 1, 3, 1, 1, 1
Draw a vertical line diagram to show this data.



Count each value: 0: 3, 1: 5, 2: 3, 3: 4
draw a line of that height above each value

2 / 2

- 73 The vertical line diagram shows the marks scored by pupils in a quiz. One line is missing. There were 42 pupils altogether. Work out the missing frequency and complete the diagram.

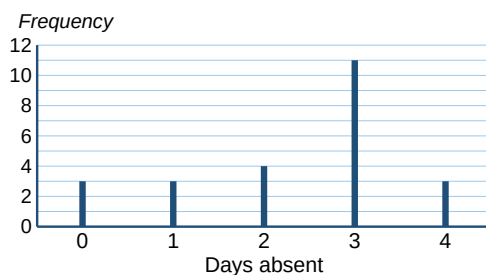


Known frequencies: $4 + 9 + 7 + 10 + 4 + 3 = 37$
 $42 - 37 = 5$

5

2 / 2

- 74 The vertical line diagram shows the number of days each pupil was absent from school in a term. What fraction of the pupils were absent for 2 days? Give your answer in its simplest form.

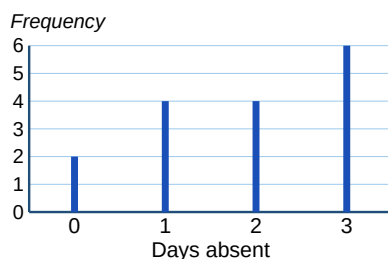


Total = 24
 4 out of 24 = $\frac{1}{6}$

$\frac{1}{6}$

2 / 2

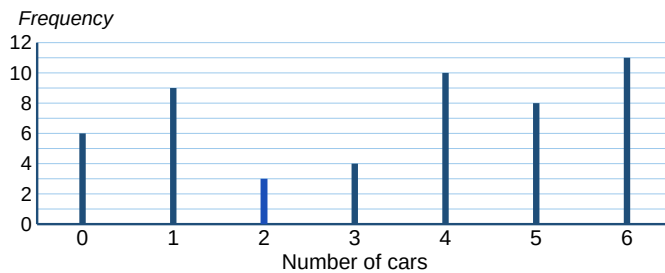
- 75 Callum records the number of days each pupil was absent from school in a term. Here are the results.
 3, 2, 1, 3, 0, 3, 1, 2, 0, 3, 2, 3, 1, 3, 1, 2
 Draw a vertical line diagram to show this data.



Count each value: 0: 2, 1: 4, 2: 4, 3: 6
 draw a line of that height above each value

2 / 2

- 76 The vertical line diagram shows the number of cars owned by each household in a road. One line is missing. There were 51 households altogether. Work out the missing frequency and complete the diagram.

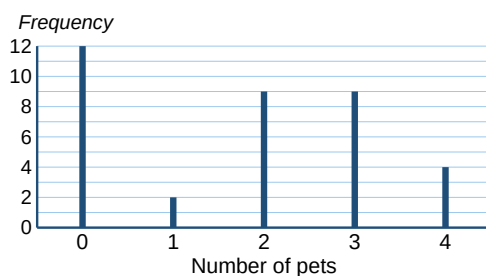


Known frequencies: $6 + 9 + 4 + 10 + 8 + 11 = 48$
 $51 - 48 = 3$

3

3 / 3

- 77 The vertical line diagram shows the number of pets owned by each pupil in a class. What fraction of the pupils had 4 pets? Give your answer in its simplest form.

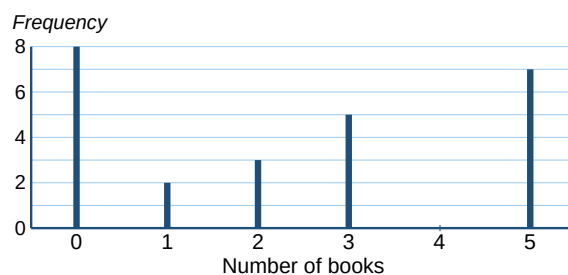


Total = 36
 4 out of 36 = $\frac{1}{9}$

 $\frac{1}{9}$

3 / 3

- 78 The vertical line diagram shows the number of books read by each pupil in a month. Work out the total number of books.

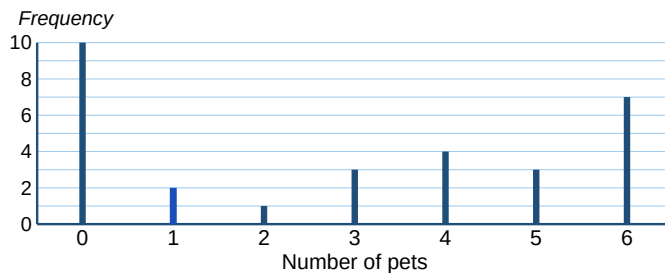


$1 \times 2 + 2 \times 3 + 3 \times 5 + 5 \times 7 = 58$

58

3 / 3

- 79 The vertical line diagram shows the number of pets owned by each pupil in a class. One line is missing. There were 30 pupils altogether. Work out the missing frequency and complete the diagram.

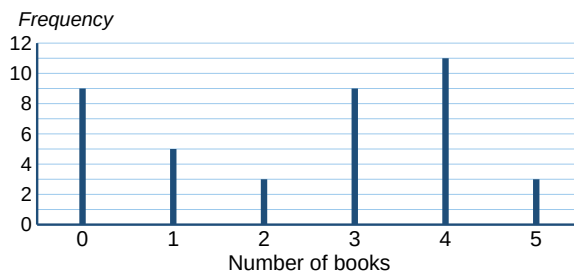


Known frequencies: $10 + 1 + 3 + 4 + 3 + 7 = 28$
 $30 - 28 = 2$

2

3 / 3

- 80 The vertical line diagram shows the number of books read by each pupil in a month. What percentage of the pupils read 2 books?

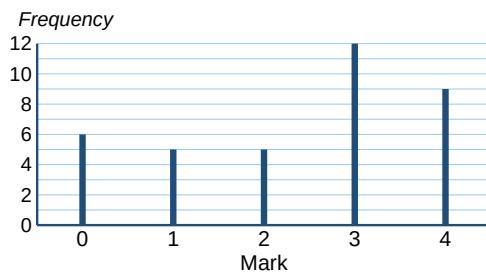


Total = 40
 $3 \div 40 \times 100 = 7.5\%$

7.5%

3 / 3

- 81 The vertical line diagram shows the marks scored by pupils in a quiz. Work out the total number of marks.

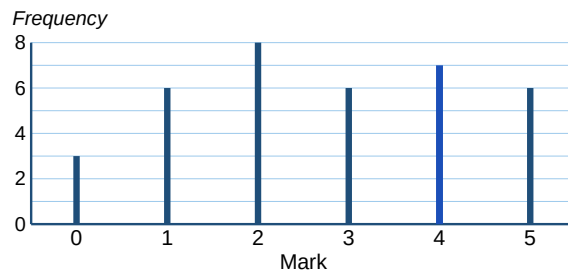


$1 \times 5 + 2 \times 5 + 3 \times 12 + 4 \times 9 = 87$

87

3 / 3

- 82 The vertical line diagram shows the marks scored by pupils in a quiz. One line is missing. There were 36 pupils altogether. Work out the missing frequency and complete the diagram.

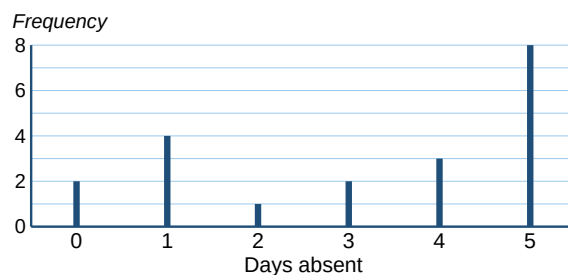


Known frequencies: $3 + 6 + 8 + 6 + 6 = 29$
 $36 - 29 = 7$

7

3 / 3

- 83 The vertical line diagram shows the number of days each pupil was absent from school in a term. What percentage of the pupils were absent for 3 days?

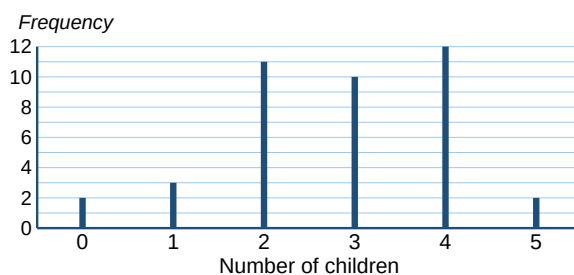


Total = 20
 $2 \div 20 \times 100 = 10\%$

10%

3 / 3

- 84 The vertical line diagram shows the number of children in each family on a street. Work out the total number of children.

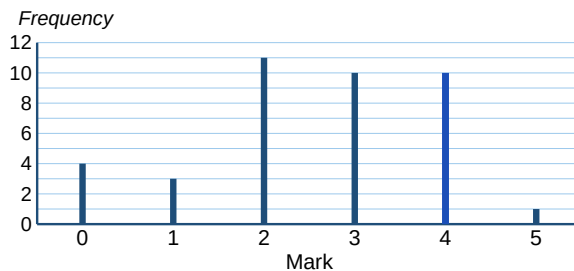


$1 \times 3 + 2 \times 11 + 3 \times 10 + 4 \times 12 + 5 \times 2 =$
 113

113

3 / 3

- 85 The vertical line diagram shows the marks scored by pupils in a quiz. One line is missing. There were 39 pupils altogether. Work out the missing frequency and complete the diagram.



Known frequencies: $4 + 3 + 11 + 10 + 1 = 29$
 $39 - 29 = 10$

10

3 / 3

- 86 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches. What percentage of the matches had 4 goals scored?

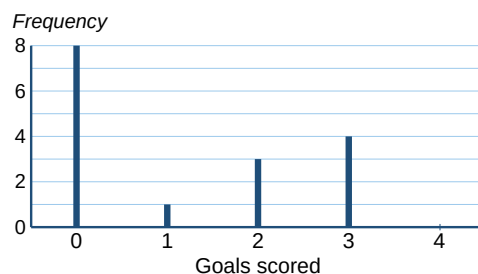


Total = 50
 $11 \div 50 \times 100 = 22\%$

22%

3 / 3

- 87 The vertical line diagram shows the number of goals scored by a hockey team in each of its matches. Work out the total number of goals.

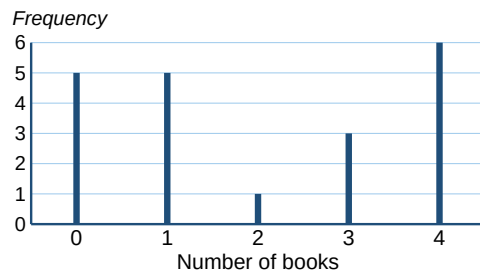


$1 \times 1 + 2 \times 3 + 3 \times 4 = 19$

19

3 / 3

- 88** The vertical line diagram shows the number of books read by each pupil in a month.
Work out the mean number of books read.
You must show your working.



$$0 \times 5 + 1 \times 5 + 2 \times 1 + 3 \times 3 + 4 \times 6 = 40$$

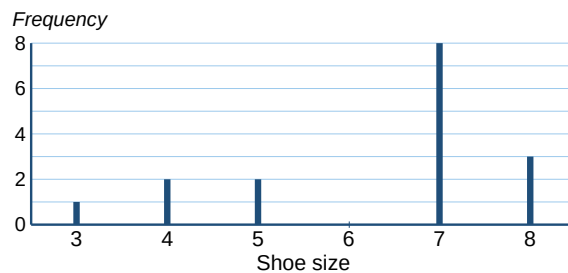
$$\text{total frequency} = 20$$

$$\text{mean} = 40 \div 20 = 2$$

2

3 / 3

- 89** The vertical line diagram shows the shoe sizes of the pupils in a group.
One pupil is chosen at random.
Write down the probability that this pupil had shoe size 4.



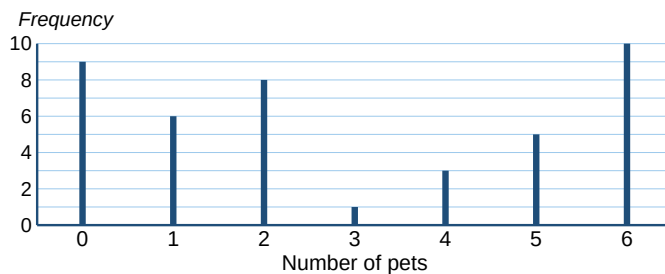
$$\text{Total} = 16$$

$$2 \text{ out of } 16 = \frac{1}{8}$$

$\frac{1}{8}$

3 / 3

- 90** The vertical line diagram shows the number of pets owned by each pupil in a class.
Work out the total number of pets.



$$1 \times 6 + 2 \times 8 + 3 \times 1 + 4 \times 3 + 5 \times 5 + 6 \times 10 = 122$$

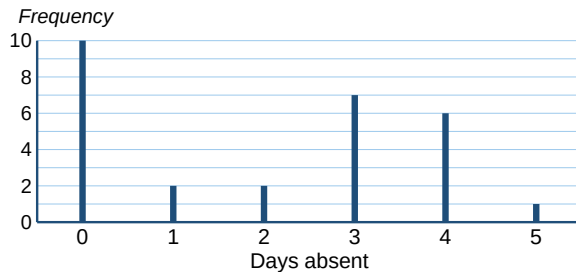
122

3 / 3

- 91 The vertical line diagram shows the number of days each pupil was absent from school in a term.

Work out the mean number of days absent.

You must show your working.



$$0 \times 10 + 1 \times 2 + 2 \times 2 + 3 \times 7 + 4 \times 6 + 5 \times 1 = 56$$

$$\text{total frequency} = 28$$

$$\text{mean} = 56 \div 28 = 2$$

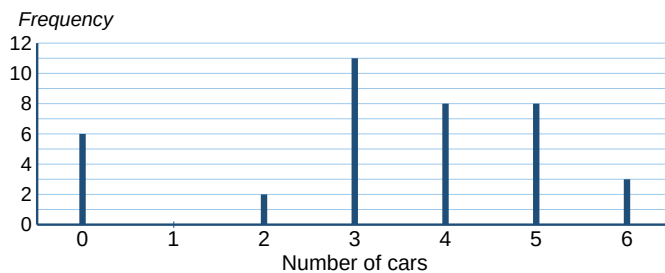
2

3 / 3

- 92 The vertical line diagram shows the number of cars owned by each household in a road.

One household is chosen at random.

Write down the probability that this household had 2 cars.



$$\text{Total} = 38$$

$$2 \text{ out of } 38 = \frac{1}{19}$$

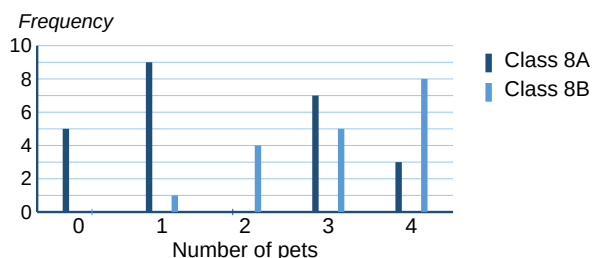
$\frac{1}{19}$

3 / 3

- 93 The vertical line diagram shows the number of pets owned by pupils in two classes.

Compare the distributions of the two groups.

Use the median and the range in your answer.

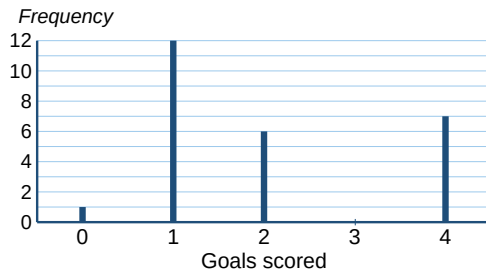


The median for Class 8B (3) is higher than the median for Class 8A (1), so Class 8B owned more pets on average. The range for Class 8B (3) is smaller than the range for Class 8A (4), so Class 8B were more consistent.

The median for Class 8B (3) is higher than the median for Class 8A (1).

3 / 3

- 94** The vertical line diagram shows the number of goals scored by a hockey team in each of its matches.
Work out the mean number of goals scored.
You must show your working.



$$0 \times 1 + 1 \times 12 + 2 \times 6 + 4 \times 7 = 52$$

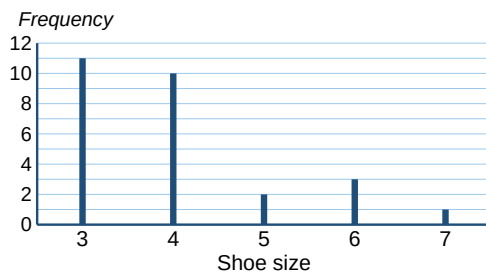
$$\text{total frequency} = 26$$

$$\text{mean} = 52 \div 26 = 2$$

2

3 / 3

- 95** The vertical line diagram shows the shoe sizes of the pupils in a group.
Work out the mean shoe size.
You must show your working.



$$3 \times 11 + 4 \times 10 + 5 \times 2 + 6 \times 3 + 7 \times 1 = 108$$

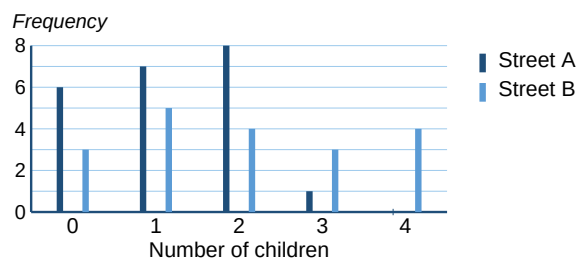
$$\text{total frequency} = 27$$

$$\text{mean} = 108 \div 27 = 4$$

4

3 / 3

- 96** The vertical line diagram shows the number of children in the families on two streets.
Compare the distributions of the two groups.
Use the median and the range in your answer.

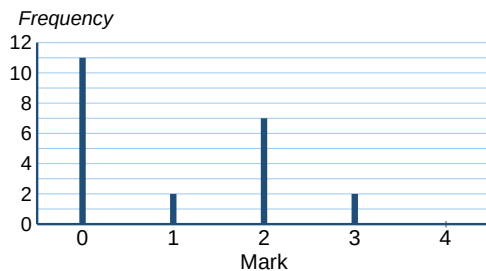


The median for Street B (2) is higher than the median for Street A (1), so Street B had more children on average. The range for Street A (3) is smaller than the range for Street B (4), so Street A were more consistent.

The median for Street B (2) is higher than the median for Street A (1).

3 / 3

- 97 The vertical line diagram shows the marks scored by pupils in a quiz.
Work out the mean mark.
You must show your working.



$$0 \times 11 + 1 \times 2 + 2 \times 7 + 3 \times 2 = 22$$

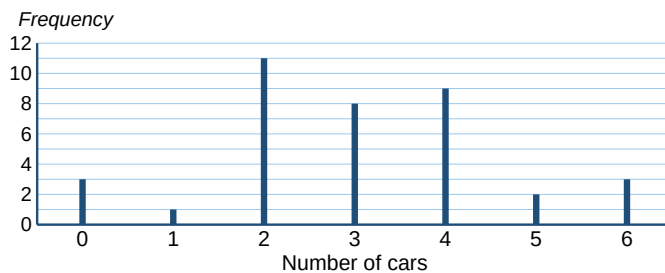
$$\text{total frequency} = 22$$

$$\text{mean} = 22 \div 22 = 1$$

1

3 / 3

- 98 The vertical line diagram shows the number of cars owned by each household in a road.
Work out the mean number of cars.
You must show your working.



$$0 \times 3 + 1 \times 1 + 2 \times 11 + 3 \times 8 + 4 \times 9 + 5 \times 2 + 6 \times 3 = 111$$

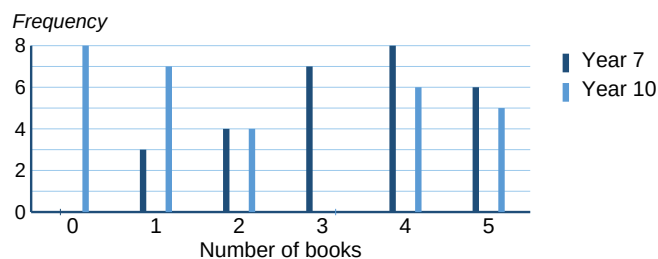
$$\text{total frequency} = 37$$

$$\text{mean} = 111 \div 37 = 3$$

3

3 / 3

- 99 The vertical line diagram shows the number of books read in a month by pupils in two year groups.
Compare the distributions of the two groups.
Use the median and the range in your answer.



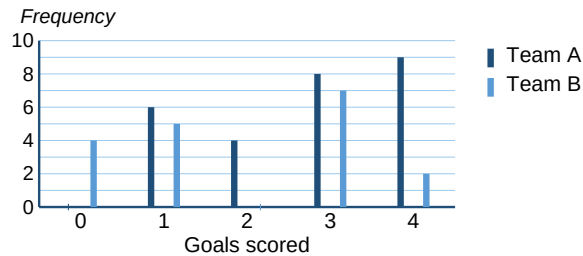
The median for Year 7 (3.5) is higher than the median for Year 10 (1.5), so Year 7 read more books on average

The range for Year 7 (4) is smaller than the range for Year 10 (5), so Year 7 were more consistent

The median for Year 7 (3.5) is higher than the median for Year 10 (1.5)

3 / 3

- 100** The vertical line diagram shows the number of goals scored in each match by two hockey teams.
Compare the distributions of the two groups.
Use the median and the range in your answer.



The median for Team A (3) is higher than the median for Team B (2), so Team A scored more goals on average. The range for Team A (3) is smaller than the range for Team B (4), so Team A were more consistent.

The median for Team A (3) is higher than the median for Team B (2).