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## GCSE MATHEMATICS

Foundation tier – Questions by Topic

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Statistics

Calculating the range

v1.0

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Name \_\_\_\_\_

### Materials

For this paper you must have:

- Mathematical instruments

### Information

- The marks for questions are shown in brackets

### Advice

- In all calculations, show clearly how you work out your answer

For questions 1 to 4 you must **NOT** use a calculator.



**Q1.**

Here are some numbers.

|   |   |   |    |    |    |    |
|---|---|---|----|----|----|----|
| 5 | 5 | 8 | 13 | 14 | 15 | 17 |
|---|---|---|----|----|----|----|

Circle the range.

5

11

12

13

**(Total 1 mark)**

**Q2.**

Circle the expression for the range of  $n$  consecutive integers.

$$\frac{n+1}{2}$$

$$n-1$$

$$n$$

$$n+1$$

**(Total 1 mark)**

**Q3.**

The range of a set of numbers is

$$15\frac{1}{4}$$

The smallest number is

$$-2\frac{7}{8}$$

Work out the largest number.

**(Total 3 marks)**

**Q4.**

Here are two sets of cards.

Set A

4

7

6

X

Set B

2

5

1

X

X has the same value on both cards.

Each set of cards has a range of 4.

Work out the value of X.

**(Total 2 marks)**

**For the rest of the questions, you may use a calculator.**



**Q5.**

The masses of some puppies were recorded.

The smallest mass was 7 kilograms 200 grams.

The range of the masses was 650 grams.

What was the **largest** mass?

Give your answer in kilograms and grams.

**(Total 2 marks)**

**Q6.**

A factory makes kettles.

Four samples of kettles are tested for faults.

Each sample has size 200

Here are the relative frequencies of faulty kettles in the samples.

| Sample             | P    | Q     | R     | S    |
|--------------------|------|-------|-------|------|
| Relative frequency | 0.03 | 0.035 | 0.015 | 0.01 |

Work out the range of the number of faulty kettles in the four samples.

**(Total 3 marks)**

**Q7.**

Adam saved these amounts.

£124      £79.50      £122.50      £96      £85

(a) Work out the range.

**(2)**

(b) Matthew saved **half** as much as Adam.

Work out the **total** amount that Matthew saved.

**(3)**

**(Total 5 marks)**

**Q8.**

Here is a list of numbers.

1 000 000       $4.6 \times 10^4$       63 000       $5 \times 10^3$        $1.7 \times 10^5$

Work out the range.

Write your answer in standard form.

**(Total 4 marks)**