NON-CALC I

# GCSE Mathematics · Foundation Tier

40 marks · 45 minutes · Non-calculator

**Name** ..... **Class** .....

**Answer all questions. Show all your working. Diagrams are NOT accurately drawn unless stated.**

**1** Round 3846 to the nearest hundred.

.....

**(Total for Question 1 is 1 mark)**

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**2** **(a)** Work out $-7 + 12$

.....

**(1)**

At midnight the temperature was –6 °C. At noon the temperature was 9 °C.

**(b)** By how many degrees did the temperature rise?

..... °C

**(1)**

**(Total for Question 2 is 2 marks)**

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**3** In a Fibonacci-type sequence, each term is the sum of the two terms before it.

Here are the first four terms of a Fibonacci-type sequence.

**2 5 7 12**

**(a)** Write down the next two terms of the sequence.

.....

**(1)**

The first term of a different Fibonacci-type sequence is $a$. The second term is 3

The fourth term is 11

**(b)** Work out the value of $a$.

$a =$ .....

**(1)**

**(Total for Question 3 is 2 marks)**

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**4** The diagram shows two parallel lines crossed by a straight line.

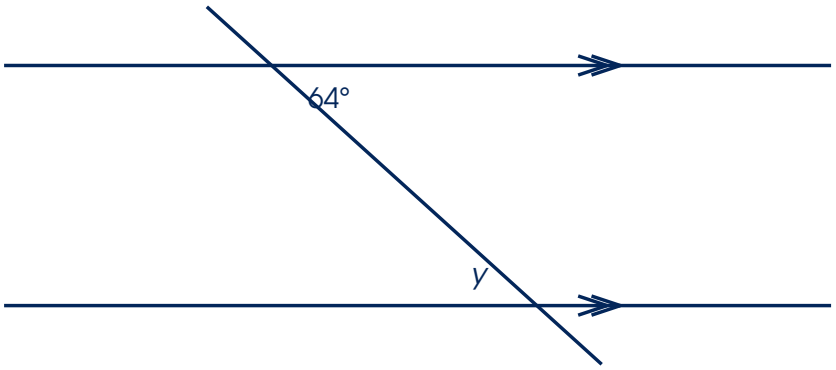



*Diagram NOT accurately drawn*

**(a)** Write down the size of angle *y*.

..... °

**(1)**

**(b)** Give a reason for your answer.

.....

**(1)**

**(Total for Question 4 is 2 marks)**

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**5** Here are the ages, in years, of 8 people.

**23 31 19 27 31 22 28 35**

**(a)** Write down the mode.

..... years

**(1)**

**(b)** Work out the median age.

..... years

**(1)**

**(Total for Question 5 is 2 marks)**

**6** **(a)** Change 3.5 kg to grams.

..... g

**(1)**

A ribbon is 2.4 m long. Kai cuts the ribbon into pieces that are each 30 cm long.

**(b)** How many pieces does Kai cut?

.....

**(2)**

**(Total for Question 6 is 3 marks)**

**7** Work out $(3 \times 10^5) \times (4 \times 10^2)$

Give your answer in standard form.

.....

**(Total for Question 7 is 2 marks)**

**8** Dan rolls a dice 50 times. The table shows his results.

| Score | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Frequency | 6 | 9 | 8 | 7 | 8 | 12 |

**(a)** Write down the relative frequency of rolling a 6

.....

**(1)**

Dan says, "The dice must be biased because I rolled more 6s than any other number."

**(b)** Is Dan correct? Give a reason for your answer.

.....

**(1)**

Dan rolls the same dice 300 times.

**(c)** Use his results to estimate the number of times he will roll a 6

.....

**(1)**

**(Total for Question 8 is 3 marks)**

**9** A circle has a diameter of 10 cm.

**(a)** Work out the area of the circle. Give your answer in terms of π.

..... $cm^2$

**(2)**

Zara says, "If you double the radius of a circle, you double its area."

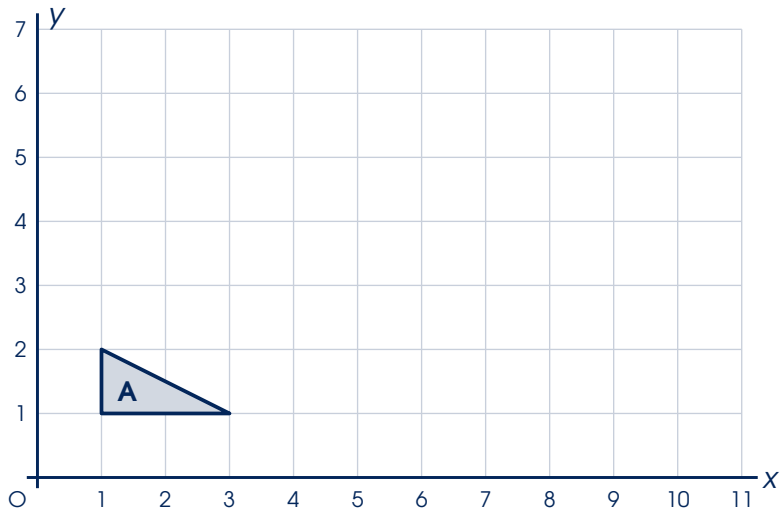
**(b)** Is Zara correct? Give a reason for your answer.

.....

**(1)**

**(Total for Question 9 is 3 marks)**

**10** Shape *A* is drawn on the grid.




Enlarge shape *A* by scale factor 3, centre (0, 0).

**(2)**

**(Total for Question 10 is 2 marks)**

**11** Amir tries to solve the equation $4(x - 3) = 2x + 10$

Here is his working.

$4(x - 3) = 2x + 10$

$4x - 3 = 2x + 10$

$2x = 13$

$x = 6.5$

**(a)** Describe the mistake Amir has made.

.....

**(1)**

**(b)** Solve $4(x - 3) = 2x + 10$ correctly.

$x =$ .....

**(2)**

**(Total for Question 11 is 3 marks)**

**12** A pair of trainers costs £75 in London. The same trainers cost €96 in Paris.

The exchange rate is £1 = €1.20

In which city are the trainers cheaper?

**You must show all your working.**

**(Total for Question 12 is 3 marks)**

**13** Mrs Patel gives the same test to two classes. The table shows information about the results.

| | Mean | Range |
|---|---|---|
| Class P | 62 | 30 |
| Class Q | 58 | 12 |

Compare the test results of the two classes.

.....

.....

.....

**(Total for Question 13 is 2 marks)**

**14** The square and the rectangle have the same area.

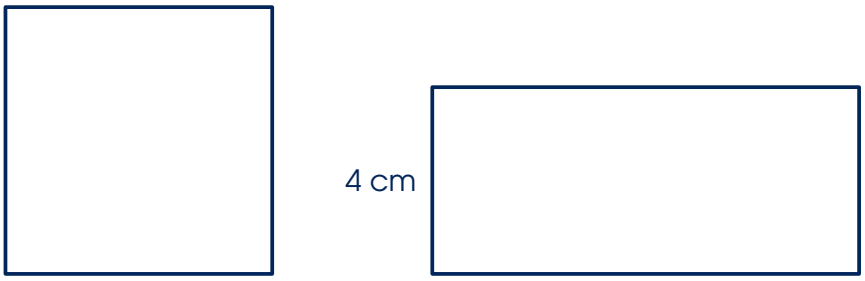



*Diagram NOT accurately drawn*

Work out the value of $x$.

$x =$ .....

**(Total for Question 14 is 3 marks)**

**15** Tom earns £12 an hour.

Each week he works for 7.5 hours a day on 4 days.

Tom saves $\frac{1}{5}$ of the money he earns each week.

How many weeks will it take Tom to save at least £540?

..... weeks

**(Total for Question 15 is 4 marks)**

**16** Ravi cycles for 40 minutes at an average speed of 18 km/h.

He then cycles 8 km in 20 minutes.

Work out Ravi's average speed for the whole journey.

..... km/h

**(Total for Question 16 is 3 marks)**

**TOTAL FOR PAPER IS 40 MARKS**