# Collins

## Edexcel GCSE Mathematics

# F

## SET B – Paper 2 Foundation Tier (Calculator)

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### Time allowed: 1 hour 30 minutes

#### You must have:

 Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator.



#### Instructions

- Use **black** ink or black ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided there may be more space than you need.
- Calculators may be used.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must show all your working out.

#### Information

- The total mark for this paper is 80.
- The marks for each question are shown in brackets
  use this as a guide as to how much time to spend on each question.
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

#### Name:

#### Answer ALL questions.

#### Write your answers in the spaces provided.

#### You must write down all the stages of your working.

1 (a) Write down a number that is a multiple of **both** 5 and 8.

(b) Work out the number that is 25% more than 80.

(1)

(1)

(Total for Question 1 is 2 marks)

Write down an expression that represents 4 less than *x*.

(Total for Question 2 is 1 mark)

#### 4 Here are four numbered cards.



(a) Write down the biggest 4-digit odd number that can be made with the cards.

(1)

(b) How many numbers between 4000 and 5000 can be made with the four cards?

(2)

(Total for Question 4 is 3 marks)



(b) Here is shape A.

Write down the order of rotational symmetry of this shape.

(c) Here is shape **D**.

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Write down the number of lines of symmetry of this shape.

(d) Here is shape **F**.

What type of angle is the one marked?

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$\left \right\rangle$	



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(Total for Question 5 is 4 marks)

(1)

(1)

(1)





#### 6 A shop sells beach toys.







Bucket £2.49 Spade £1.49 Rubber ring £3.50

(a) Josie buys one of each item.

She pays with a £10 note.

How much change should she get?

£

(2)

(2)

(b) Josie receives her change in the least number of coins possible.

Which coins did she get?

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(Total for Question 6 is 4 marks)

(b) Round 3850 to the nearest 100.

(1)

(1)

(1)

(1)

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

(a) Write down the rule for continuing this sequence.

5 9 13 17 21 ....

(b) Write down the next term in the sequence in part (a).

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(c) Write down the next term in this sequence.



9 A shape is drawn on a centimetre grid.



Show clearly that the area of the shape lies between  $13 \text{ cm}^2$  and  $33 \text{ cm}^2$ .

(Total for Question 9 is 2 marks)

#### **10** A running club meets on Tuesday evening.

The bar chart shows how many members came each Tuesday in January.

The information for week 4 is missing.



(a) How many members came to the club in week 2?

(b) How many more members came in week 3 than in week 1?

(c) The club has 60 members.

55% of the members came to the club in week 4.

Complete the bar chart.

(1)

(1)

(d) The club chairman said, "On average over half of our members came each week in January".

Is she correct?			
Tick a box	Yes	No	Cannot tell
Give reasons for	your choice below.		
			(4)
			(Total for Question 10 is 9 marks)

#### 11 On the grid below draw:

a circle, radius 5 cm centred on A

#### a 6 cm by 8 cm rectangle **inside** the circle

a diagonal of the rectangle.



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

**(b)** Solve  $\frac{x}{4} = 8$ 

(1)

(Total for Question 12 is 2 marks)

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(a) Use your calculator to work out  $\sqrt[3]{46.656}$ 

**(b)** Use your calculator to work out  $\sqrt{105} + 19.8^2$ 

(c) Use estimation to show that your answer to part (b) is sensible.

(2)

(1)

(1)

(Total for Question 13 is 4 marks)

14 A bag contains 20 counters.

8 of the counters are yellow.

5 of the counters are blue.

The rest of the counters are red.

Work out the probability that a counter taken at random from the bag is red.

(Total for Question 14 is 2 marks)

15 This formula is used to work out the cost of a taxi fare.

Fare =  $\pounds 4.00 + \pounds 2.25$  for each mile +  $\pounds 0.75$  for every minute stationary.

(a) Jasmine takes a taxi that travels a distance of 7 miles and is stationary for 8 minutes.

How much was her fare?

(b) Alf takes a taxi that travels a distance of 6 miles.

His fare is £21.25

For how many minutes was the taxi stationary?

(2)

(Total for Question 15 is 5 marks)

**(b)** Factorise  $x^2 + 4x + 3$ 

(2)

## (2)

#### (Total for Question 16 is 4 marks)

#### (a) Reflect the triangle in the line y = -1







(2)



18 Work out the length *x* in the triangle.



*x* = \_\_\_\_\_ cm



#### **19** The table shows the heights of some young trees.

Height, <i>h</i> cm	Frequency
$140 \le h < 150$	5
$150 \le h < 160$	9
$160 \le h < 170$	12
$170 \le h < 180$	8
$180 \le h < 190$	6

Work out an estimate of the mean height.

(Total for Question 19 is 3 marks)

(a) As a product of prime factors  $20 = 2^2 \times 5$ 

Work out 28 as a product of prime factors.

(b) Work out the least common multiple of 20 and 28.

(2)

(2)

(Total for Question 20 is 4 marks)



Work out the value of *x*.

*x* = \_\_\_\_\_ cm

(Total for Question 21 is 3 marks)

**22** A washing machine is reduced by 15% in a sale.

The sale price of the washing machine is £238.

What was the original price of the washing machine?

(Total for Question 22 is 3 marks)

**23** Two numbers are in the ratio 2 : 5

The difference between the numbers is 36.

Work out the values of the two numbers.

(Total for Question 23 is 3 marks)

24 The area of this semicircle is  $201 \text{ cm}^2$  to 3 significant figures.



Work out the perimeter of the semicircle.

(Total for Question 24 is 3 marks)

**25** Using ruler and compasses only, construct an angle of  $60^{\circ}$  at *A*.

You must show your construction arcs.

Α

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(Total for Question 25 is 2 marks)

#### **TOTAL FOR PAPER IS 80 MARKS**