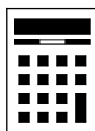# AQA

# GCSE
# MATHEMATICS

## Foundation Tier    Paper 2  Calculator

**F**

### Time allowed: 1 hour 30 minutes

## Materials

For this paper you must have:
- a calculator
- mathematical instruments
- the Formulae Sheet (enclosed).

## Instructions

- Use black ink or black ball-point pen.  Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided.  Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book.  Write the question number against your answer(s).
- Do all rough work in this book.  Cross through any work you do not want to be marked.

## Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.

## Advice

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

| For Examiner's Use | |
|---|---|
| Pages | Mark |
| 2–3 | |
| 4–5 | |
| 6–7 | |
| 8–9 | |
| 10–11 | |
| 12–13 | |
| 14–15 | |
| 16–17 | |
| 18–19 | |
| 20–21 | |
| 22–23 | |
| 24–25 | |
| 26–27 | |
| **TOTAL** | |

**4** Which of these parts of a circle is a curve?

Circle your answer.

**[1 mark]**

circumference          diameter          centre          radius

**5 (a)** Write $1\frac{4}{9}$ as an improper fraction.

**[1 mark]**

Answer _____

**5 (b)** Convert $\frac{7}{16}$ to a decimal.

**[1 mark]**

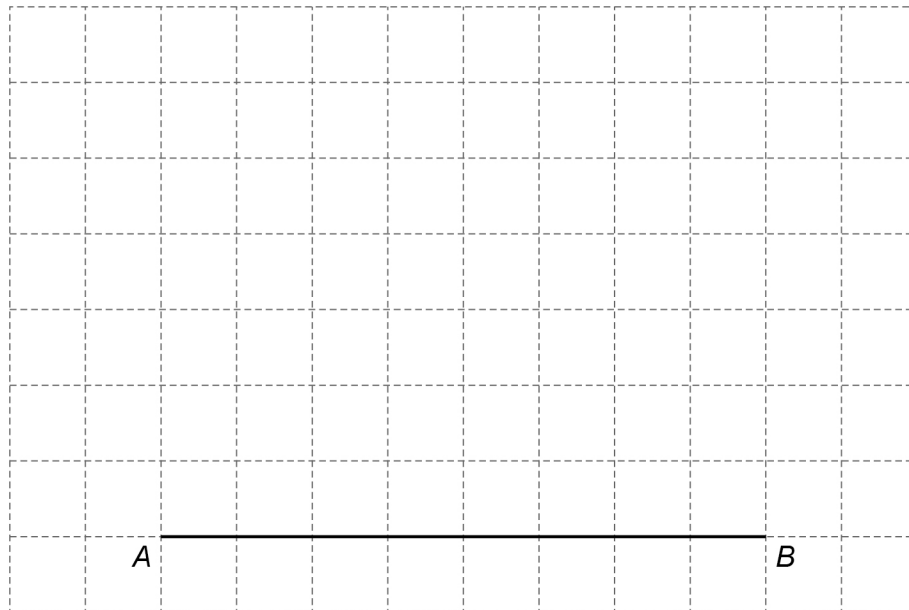Answer _____

**5 (c)** Round 2.84 to 1 decimal place.

**[1 mark]**

Answer _____

7

**Turn over ▶**

**7** Quadrilateral *ABCD* has

- angle *ABC* = 90°
- *BC* = 4 cm
- *CD* is parallel to *BA*
- *CD* = 6 cm

Draw *ABCD* on the centimetre grid.

*AB* has been drawn for you.

**[3 marks]**

*A* _____ *B*

**Turn over for the next question**

6

**Turn over ▶**

**9** **(b)** Sofia is revising for Maths.

She tries to work out    $3 \times (4 + 2)$

Here is her working.

$$3 \times (4 + 2) = 12 + 3$$
$$= 15$$

What mistake has she made?

**[1 mark]**

_____

_____

_____

_____

_____

**Turn over for the next question**

6

**Turn over ▶**

**10 (c)** *D* is the point on the grid that makes *ABCD* a parallelogram.

Work out the coordinates of *D*.

[1 mark]

Answer ( _____ , _____ )

**10 (d)** Write down the equation of the line passing through *A* and *B*.

[1 mark]

Answer _____

**Turn over for the next question**

4

**Turn over ▶**

**11 (b)** In fact, he uses **more** than $\dfrac{1}{3}$ of the rest of the money to buy a shirt.

What does this tell you about how much of his savings he has left?

Tick **one** box.

**[1 mark]**

☐      It is more than the answer to part (a)

☐      It is the same as the answer to part (a)

☐      It is less than the answer to part (a)

☐      It is not possible to tell

**Turn over for the next question**

4

**13** Steve and Molly each buy 480 tea bags.

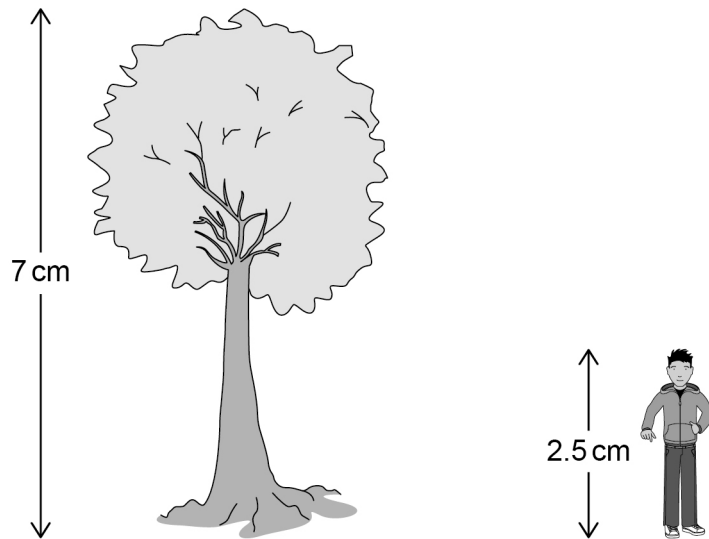| **Small packs** | **Large packs** |
|---|---|
| 80 tea bags for £1.90 | 160 tea bags for £3.25 |

Steve buys only small packs.

Molly buys only large packs.

In total, how much **more** than Molly does Steve pay?

**[4 marks]**

Answer £ _____

7

**Turn over ▶**

**15** The scale drawing shows a tree and a student.



7 cm

2.5 cm

The actual height of the tree is 4.2 metres.

Work out the actual height of the student.

**[3 marks]**

Answer _____ m

6

**Turn over ▶**

**17 (a)** $x$ is at least 7

Circle the correct inequality.

**[1 mark]**

$x < 7$ $\qquad$ $x \leqslant 7$ $\qquad$ $x > 7$ $\qquad$ $x \geqslant 7$

**17 (b)** Multiply out $5c(2d + 1)$

**[2 marks]**

Answer _____

**17 (c)** Factorise $21x + 28$

**[1 mark]**

Answer _____

**7**

**Turn over ▶**

**19 (a)** Circle the point that is on the line $4x + y = 7$

**[1 mark]**

(2, 1)          (2, −1)          (1, 2)          (−1, 2)

**19 (b)** Write down the coordinates of the $y$-intercept of the line $y = 3x + 8$

**[1 mark]**

Answer ( _____ , _____ )

**19 (c)** Work out the gradient of the line $2y = 10x$

**[1 mark]**

Answer _____

**Turn over for the next question**

8

**Turn over ▶**

**21**      Show that 2125 can be written as

        a cube number **multiplied** by a prime number between 10 and 20

**[2 marks]**

**Turn over for the next question**

**5**

**Turn over ▶**

**23** Sam types a constant number of words per minute.

He takes 8 minutes to type a report of 416 words.

How long does it take him to type an essay of 1534 words?

Give your answer in minutes and seconds.

**[3 marks]**

Answer _____ minutes _____ seconds

**24** $4y = 5x$

Which statement is correct?

Tick **one** box.

**[1 mark]**

☐ $y$ is 80% of $x$

☐ $y$ is 125% of $x$

☐ $x$ is 20% of $y$

☐ $x$ is 400% of $y$

**Turn over ▶**

**26** Harry and Ellie each bought a printer and a hard drive.

Here is some information about how much they paid.

|  | **Printer** | **Hard drive** |
|---|---|---|
| **Harry** | £80 | £25 |
| **Ellie** | 10% less than Harry | 20% more than Harry |

Ellie says,

"In total, I paid more than Harry because 20% is greater than 10%"

Is she correct?

Tick a box.

Yes ☐            No ☐

Show calculations to support your answer.

**[2 marks]**

5

*Do not write outside the box*

**28**  Solve    $5(2x - 1) = 6x + 9$

**[3 marks]**

$x =$ _____

**END OF QUESTIONS**

8

| Question number | **Additional page, if required.**<br>**Write the question numbers in the left-hand margin.** |
|---|---|
| | |

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|---|---|
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