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I declare this is my own work.

GCSE MATHEMATICS

F

Foundation Tier

Paper 2 Calculator

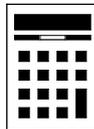
Shadow paper based on June 2022 question paper

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	

Answer **all** questions in the spaces provided.

- 1** Here is a number line.



Which number is at A?

Circle your answer.

[1 mark]

12

14

15

18

- 2** Here is an expression $5a + 7b + 9c$

Which is the third term?

Circle your answer.

[1 mark]

a

7

$7b$

$9c$

- 3** How many minutes are there in 6 hours?

Circle your answer.

[1 mark]

42

120

144

360

- 4 Which of these parts of a circle is a curve?
Circle your answer.

[1 mark]

circumference diameter centre radius

- 5 (a) Write $1\frac{5}{7}$ as an improper fraction.

[1 mark]

Answer _____

- 5 (b) Convert $\frac{11}{16}$ to a decimal.

[1 mark]

Answer _____

- 5 (c) Round 4.77 to 1 decimal place.

[1 mark]

Answer _____

6 A machine to clean floors can be hired.

Machine hire

£35 per day

Cleaning fluid

1-litre bottle £12

2-litre bottle £20

Rosanna wants to
hire the machine for 2 days
and
buy 7 litres of cleaning fluid.

Work out the **smallest** total amount she could pay.

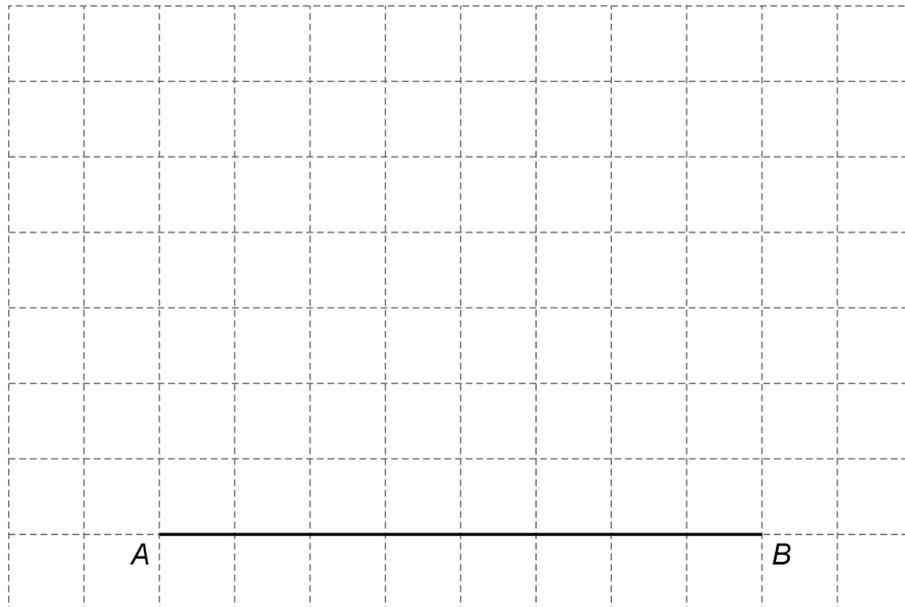
[3 marks]

Answer £ _____

7

Quadrilateral $ABCD$ has

- angle $DAB = 90^\circ$
- $AD = 6$ cm
- CD is parallel to BA
- $CD = 5$ cm

Draw $ABCD$ on the centimetre grid. AB has been drawn for you.**[3 marks]****Turn over for the next question****Turn over ►**

- 8** The masses of some kittens were recorded.
The smallest mass was 2 kilograms 300 grams.
The range of the masses was 850 grams.

What was the **largest** mass?

Give your answer in kilograms and grams.

[2 marks]

Answer _____ kilograms _____ grams

- 9 (a)** Ali works each day for six days.
On each of the first **five** days she works from 8 am to 1 pm
On the sixth day she starts work at 1 pm
She finishes when he has worked for a **total** of 28 hours for the six days.
What time does she finish on the sixth day?

[3 marks]

Answer _____

- 9 (b)** Sonia is working on accounts.
She tries to work out $3 \times (6 + 5)$
Here is her working.

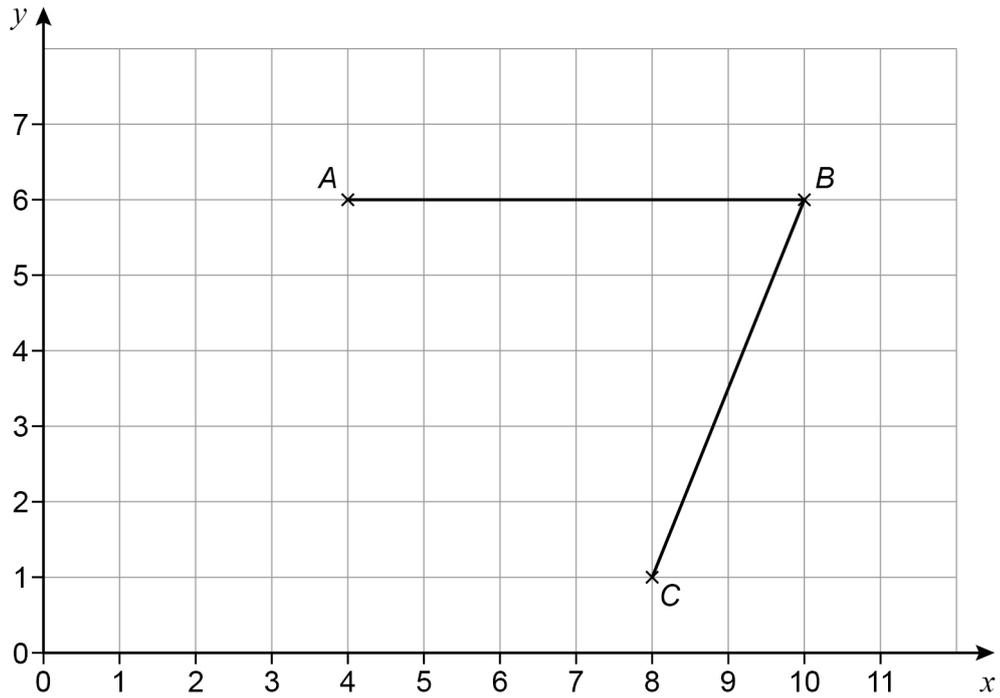
$$\begin{aligned} 3 \times (6 + 5) &= 18 + 5 \\ &= 23 \end{aligned}$$

What mistake has she made?

[1 mark]

Turn over for the next question

- 10** Lines AB and BC are shown.



- 10 (a)** Write down the coordinates of A .

[1 mark]

Answer (_____ , _____)

- 10 (b)** Write down the coordinates of the midpoint of BC .

[1 mark]

Answer (_____ , _____)

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 D and C .

[1 mark]

Answer _____

Turn over for the next question

11 Nisha has savings of £182
She uses $\frac{4}{7}$ of her savings to buy clothes.

11 (a) Assume that she will use $\frac{2}{3}$ of the **rest** of the money to buy games.

How much of her savings, in £, will she have left?

[3 marks]

Answer £ _____

11 (b) In fact, she uses **less** than $\frac{2}{3}$ of the rest of the money to buy games.

What does this tell you about how much of her savings she 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

Turn over ►

- 12** Faiza is working with 2-digit numbers.
She multiplies the digits together to get an answer.

For 43, she multiplies 4 by 3
so 43 gives an answer of 12

- 12 (a)** Write down a different 2-digit number that gives an answer of 12

[1 mark]

Answer _____

- 12 (b)** Write down the 2-digit number that gives an answer of 1

[1 mark]

Answer _____

- 12 (c)** Write down a 2-digit number that gives an answer **between** 50 and 60

[1 mark]

Answer _____

13

Sanjit and Mairead each buy 420 cans of drink from a warehouse.

Small crates

140 cans for £126

Large crates

210 cans for £178.50

Sanjit buys only small crates.

Mairead buys only large crates.

In total, how much **less** than Sanjit does Mairead pay?

[4 marks]

Answer £ _____

14

Match each expression on the left with one on the right.

One has been done for you.

[3 marks]

$$a + 4 + 3$$

$$7a$$

$$a + 7$$

$$a + 4 \times 3$$

$$4a + 3$$

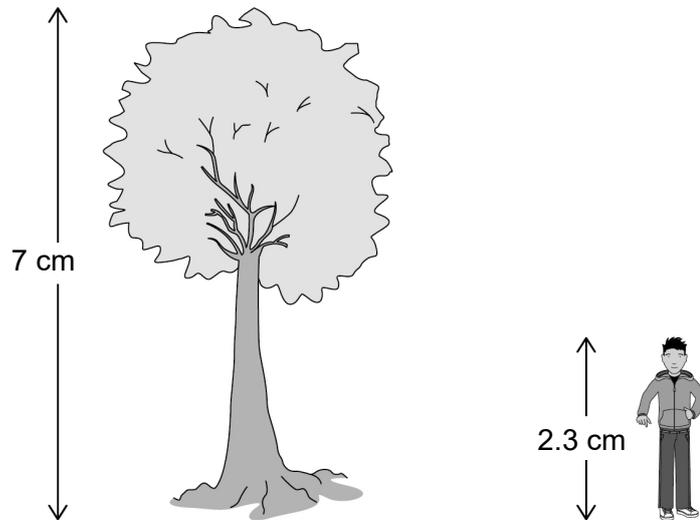
$$a \times 4 \times 3$$

$$a + 12$$

$$a \times 4 + 3$$

$$12a$$

- 15 The scale drawing shows a tree and a man.



The actual height of the tree is 5.6 metres.

Work out the actual height of the man.

[3 marks]

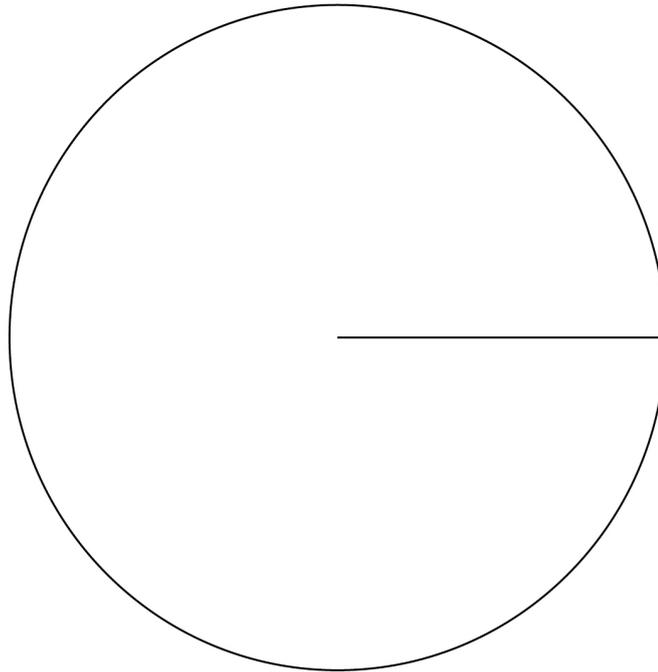
Answer _____ m

16

120 people were asked if they would eat in a local restaurant.

- $\frac{1}{3}$ of the people said No
- 30 people said Yes
- The rest said Maybe

Draw and label a pie chart to show this information.

[3 marks]

- 17 (a)** x is at most 8
Circle the correct inequality.

[1 mark]

$x < 8$

$x \leq 8$

$x > 8$

$x \geq 8$

- 17 (b)** Multiply out $6p(3q + 2)$

[2 marks]

Answer _____

- 17 (c)** Factorise $22x + 33$

[1 mark]

Answer _____

- 18 (a)** The animals in a sanctuary are either horses or donkeys.

$$\text{horses : donkeys} = 11 : 14$$

What percentage are donkeys?

[2 marks]

Answer _____ %

- 18 (b)** A set of counters are red, blue or green.

36% are red

number of blue = number of green

Work out number of red : number of green

Give your answer in the form $n : 1$

[3 marks]

Answer _____ : 1

19 (a) Circle the point that is on the line $5x + y = 9$

[1 mark]

(-1, -4)

(2, -1)

(-1, 4)

(-1, -2)

19 (b) Write down the coordinates of the y -intercept of the line $y = 4x + 10$

[1 mark]

Answer (_____ , _____)

19 (c) Work out the gradient of the line $3y = 12x$

[1 mark]

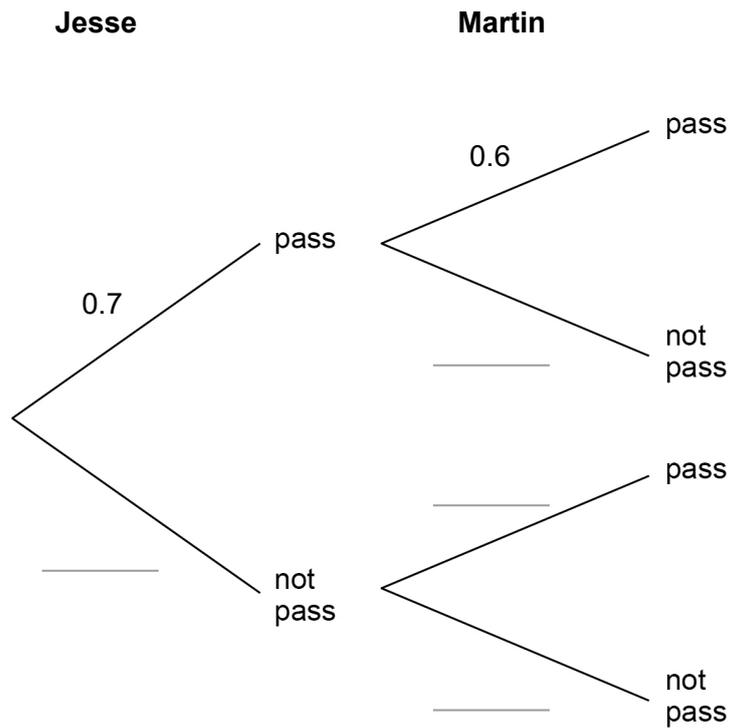
Answer _____

Turn over for the next question

- 20** Jesse and Martin each take a walk.
The probability that Jesse passes a shop is 0.7
The probability that Martin passes a shop is 0.6

20 (a) Complete the tree diagram.

[2 marks]



20 (b) Work out the probability that they **both** pass a shop.

[1 mark]

Answer _____

21

Show that 1216 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 ►

22

A concert takes place each evening from Tuesday to Saturday.

Here is the number of programmes sold on four of the days.

Tuesday	Wednesday	Thursday	Friday
92	98	103	112

For all **five** days, the mean number of programmes sold is 105

Work out the number of programmes sold on Saturday.

[3 marks]

Answer _____

- 23** A machine makes a constant number of computer chips per minute.
It takes 12 minutes to make 520 computer chips.
How long does it take the machine to make 2366 computer chips?
Give your answer in minutes and seconds.

[3 marks]

Answer _____ minutes _____ seconds

24 $5y = 4x$

Which statement is correct?

Tick **one** box.

[1 mark]

y is 80% of x

y is 125% of x

x is 25% of y

x is 500% of y

Turn over ►

- 25** Rosalind works in a call centre.
Today, she received 240 calls.
The table shows the results.

Result of call	Frequency
Answered and fully resolved	192
Answered and partly resolved	28
Answered and not resolved	20

- 25 (a)** Write down the relative frequency that a call was **answered and fully resolved**.

[1 mark]

Answer _____

- 25 (b)** During the **rest of the week**, Rosalind will receive 900 calls.

Using the results in the table, how many calls does she expect to answer and partly resolve during the **rest of the week**?

[2 marks]

Answer _____

26

Hetty and Eloise each bought a jacket and a shirt.

Here is some information about how much they paid.

	Jacket	Shirt
Hetty	£160	£35
Eloise	10% less than Hetty	40% more than Hetty

Eloise says,

“In total, I paid more than Hetty because 40% is more than 10%”

Is she correct?

Tick a box.

Yes

No

Show calculations to support your answer.

[2 marks]

28 Solve $2(4x - 2) = 6x + 5$

[3 marks]

$x =$ _____

END OF QUESTIONS

There are no questions printed on this page

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