OCR

Oxford Cambridge and RSA

Mock Test Papers - Paper2 - Test1

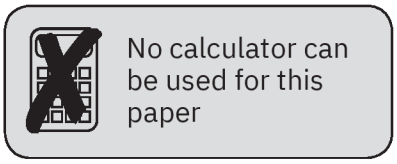
Paper 2 (Foundation Tier)

Time allowed: 1 hour 30 minutes

F

You may use:
• geometrical instruments • tracing paper

Do not use:
• a calculator



Please write clearly in black inkDo not write in the barcodes.

Centre number | | | | | | Candidate number | | | | |

First name(s) ____

Last name ____

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided.
  If you need extra space, use the lined pages at the end of this booklet.
  The question numbers must be clearly shown.
  - Answer all the questions.
- Where appropriate, your answer should be supported with working.
  Marks might be given for using a correct method, even if your answer is wrong.

INFORMATION

- The total mark for this paper is **100**.
- The marks for each question are shown in brackets [ ].

This document consists of 20 pages.

Answer all the questions.

1 Work out.

(a) 91 +19

(a) ..... [1]

(b) 17 x -5

(b) ..... [2]

2 The table shows some temperatures, in °C.

Monday	Tuesday	Wednesday	Thursday	Friday
-4	2	7	3	-2

(a) Find the difference between the temperatures on Wednesday and Friday.

(a) ..... °C [1]

(b) On Saturday, the temperature was 6°C lower than on Wednesday.

Find the temperature on Saturday.

(b) ..... °C [1]

3 Complete each statement by writing the missing value in the box.

(a) $\frac{2}{7} = \frac{4}{\square}$ [1]

(b) $5\frac{1}{3} = \frac{\square}{3}$ [1]

(c) $5x5x5x5x5x5 = 5^{\square}$ [1]

4 Work out.

(a) $\frac{3}{5}$ of 25 kg

(a) ..... kg [2]

(b) £9 - £1.99

(b) £ ..... [1]

(c) 0.81 ÷ 9

(c) ..... [1]

5 (a) Write 0.9 as a fraction.

(a) ..... [1]

(b) Write $\frac{1}{9}$ as a decimal.

(b) ..... [1]

6 Write the following in order of size, smallest first.

9.7 0.97 9.977 9.059 9.189

.... [2]

smallest

7 Work out the following, giving each answer as a fraction.

(a) $\frac{3}{4} - \frac{7}{4}$

(a) ..... [1]

(b) $\frac{3}{8} \div 4$

(b) ..... [1]

(c) $\frac{1}{9} \times \frac{1}{5}$

(c) ..... [1]

8 Jessica saves an amount of money each week.
Here are the amounts, in pounds, that she saved in the first 5 weeks of 2023.

18 34 10 25 15

(a) Find

(i) the median of the five amounts,

(a)(i) £ ..... [2]

(ii) the range of the five amounts.

(ii) £ ..... [2]

(b) In the 6th week, she also saved some money.
The mean amount that Jessica saved each week over the 6 weeks was £20.
How much did she save in the 6th week?

(b) £ ..... [3]

9 y is inversely proportional to x.
y = 30 when x = 5.
Find the value of y when x = 10.

[3]

10 A cyclist riding at a constant speed of 8 meters per second takes 90 seconds to complete a particular distance.
A motorbike completes the same distance riding at a constant speed of 20 meters per second.
Find the difference, in seconds, in the times taken by the cyclist and by the motorbike to cover this distance.

..... seconds [3]

11 (a) Ben buys a sculpture for £240 and later sells it for £300.

Find the percentage profit that he made.

(a) .....% [3]

(b) Sarah wants to increase £480 by 12% in one step by using a decimal multiplier.

Write the decimal multiplier to complete Sarah's calculation.

480 × ..... [1]

12 In a test, Emily scored the following marks.

Paper 1	23 out of 30
Paper 2	36 out of 40

(a) Show that she scored a higher percentage in Paper 2 than in Paper 1 [2]

(b) The two marks are added together.

Work out Emily's overall percentage for the two papers.

(b) .....% [3]

13 A local cinema is hosting a screening.

60 child tickets are sold.

The ratio of the number of child tickets sold to the number of adult tickets sold is 3 : 1.

The cost of a child ticket is £3.00.

The cost of an adult ticket is £6.00.

Work out the total amount paid for the tickets.

£.....[4]

(b) *A jar only contains green marbles, purple marbles, and orange marbles.*

- *The probability of picking a green marble is 1\4.*
- *There are 8 orange marbles.*
- *The probability of picking a purple marble is twice as likely as picking an orange marble.*

Work out the total number of marbles in the jar.
You must show your working.

.....[5]

14 (a) Write each of the following ratios in their simplest form.

(i) 5 : 25

(a)(i) ..... : ..... [1]

(ii) 500 ml : 1.5 litres

(ii) ..... : ..... [3]

(b) The ratio cos 60° : tan30° can be written in the form 1 : m.

Find the value of m.

(b) *m*= ..... [3]

15 Ben is organizing a charity event.
He lists his expenses and expected income.

Costs	Income
• 8 volunteers each working 5 hours at £10 per hour • Food: 50 meals at £9.75 each • Decorations: 15 items at £14.50 each	• Sponsorship: £800 • 50 attendees each paying £6

Ben thinks he will make a small profit.
Use estimation to decide if Ben is correct.
Show all of your working.

..... [6]

16 Eeshu has answered some questions on algebra.
In each question, she has made an error.
Describe her error and give the correct answer to each problem.

(a) Question 1 **Simplify.** $8a \times 2a \times a$

Eeshu's answer $16\ a$

Eeshu's error is .....

.....

Correct answer = ... [2]

(b) Question 2 **Simplify.** $\frac{x^{15}}{x2}$

Eeshu's answer x^{10}

Eeshu's error is .....

.....

Correct answer = ... [2]

(c) Question 3 $s = ut + \frac{1}{2}at^2$

Find s when $u = 0$, $t = 7$ and $a = 8$.

Martina's solution $s = 0 \times 7 + \frac{1}{2} \times 8 \times 7^2$

$s = 0 + 28^2$

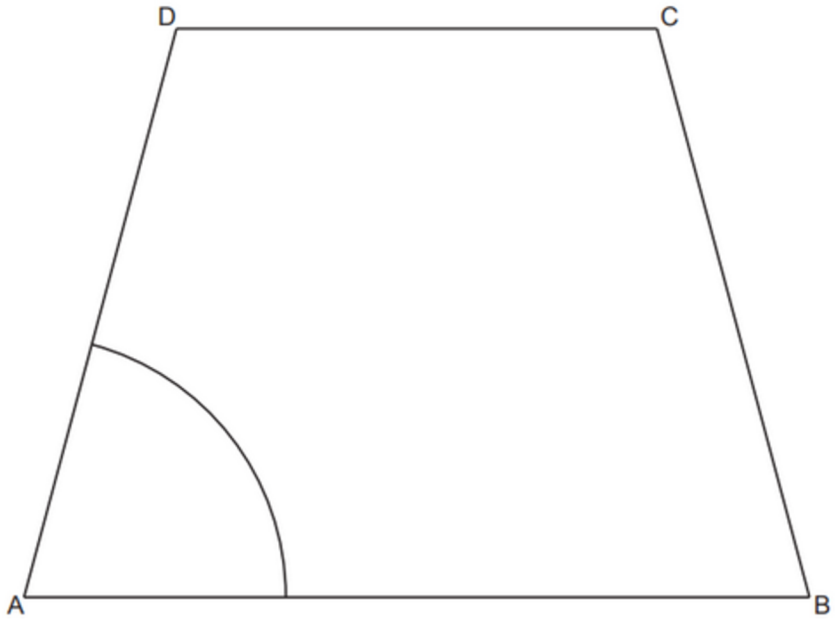
$s = 784$

Eeshu's error is .....

.....

Correct answer = ... [2]

17 The diagram shows the scale drawing of a sandpit, ABCD.
It also shows the arc of all points in the sandpit that are 80 cm from corner A.
Scale: 1cm represents 20 cm



A game is played by throwing a ball into the sandpit.

Points may be scored when the ball lands in the sandpit.

- 1 point if the ball lands within 80 cm of corner A, and
- 1 point if the ball is closer to side AB than side AD, and
- 1 point if the ball is closer to corner A than corner B.

By completing the construction, find and shade the regions where 2 points can be scored.

Show all your construction lines.

[6]

18 (a) Solve by factorising.

$x^2 + 7x + 10 = 0$

(a) $x =$ ..... or $x =$ ..... [3]

(b) Multiply out.

$6(x + 9)$

(b) ..... [1]

19 On a train , $\frac{3}{4}$ of the passengers were Canadian.

40% of the Canadian passengers were women.

There were 48 Canadian women on the train.

Find the total number of passengers on the train.

..... [5]

20 A box contains 80 marbles that are either blue or yellow.
Describe a method you could use to estimate the number of blue marbles in the box without looking into the box or having more than one marble out of the box at any one time.

.....
.....
.....
..... [4]

21 (a) Apples cost 30p each.

How many apples can be bought for £3?

(a) ..... [2]

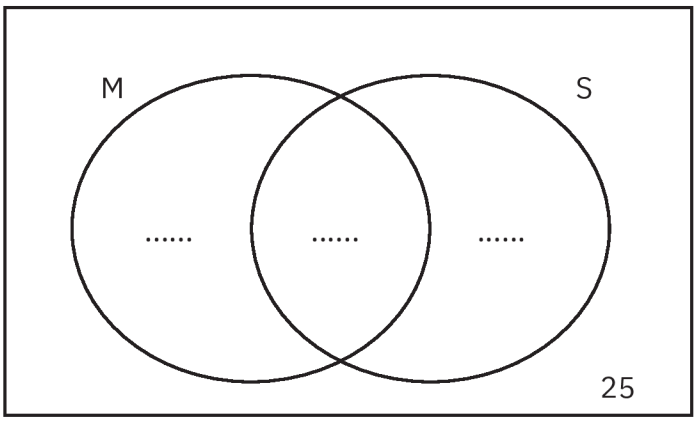
(b) Write down the largest prime factor of 50.

(b) ..... [2]

22 In a group of 120 students:

- 70 study Mathematics (M).
- 65 study Science (S).
- 25 do not study either subject.

(a) Complete the Venn diagram.



[3]

(b) One of the 120 students is selected at random.

Find the probability that this student studies exactly one of the two subjects.

(b) ..... [2]

23 A straight line with a gradient of 3 passes through the point (2, 7).

Find the equation of the line in the form $y=mx+c$.

..... [3]

END OF QUESTION PAPER