Write your name here


## Mathematics

Paper 3 (Calculator)
Aiming for 4
Foundation Tier

## Spring 2022 Practice Paper Time: 1 hour 30 minutes

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.


## Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided
- there may be more space than you need.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.

- Calculators may be used.
- If your calculator does not have a $\pi$ button, take the value of $\pi$ to be 3.142 unless the question instructs otherwise.


## Information

- The total mark for this paper is 40 . There are xx questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the November examinations
- The marks for each question are shown in brackets
- use this as a guide as to how much time to spend on each question.


## Advice

- 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.


## Answer ALL EIGHTEEN questions.

## Write your answers in the spaces provided.

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

1 On Monday, Sandy pays for 2 plane tickets, 7 nights in a hotel and 2 theme park tickets.

|  | dollars |
| :--- | :---: |
| each plane ticket | 600 |
| each night in a hotel | 120 |
| each theme park ticket | 250 |

Show that Sandy pays more than 2500 dollars on Monday.

2 The graph shows some information about car production in the UK over eight years.

(a) For how many of these years was car production more than 1.4 million?
$\qquad$
(b) In which two years was car production the same?
$\qquad$
(Total for Question 2 is $\mathbf{2}$ marks)

3 Write the following numbers in order of size.
Start with the smallest number.
$1 \quad-4$
0
7
-6
$-3$
2

4 Write $40 \%$ as a fraction.
$5 A B$ is a straight line.
Mark with a cross $(\mathrm{X})$ the midpoint of $A B$.

(Total for Question 5 is 1 mark)

6 Write down two factors of 35

7

|  |  |  |  |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

What fraction of the shape is shaded?
Give your answer in its simplest form.

8 There are three cards in bag $\mathbf{A}$ and two cards in bag B.
There is a letter on each card.


James takes a card from bag A and then a card from bag B.
List all the possible outcomes.
$\qquad$
$\qquad$
$\qquad$

9 There are only 5 blue cards, 2 green cards and 4 red cards in a pack.
Isabella is going to take at random one card from the pack.
(a) Write down the probability that Isabella will take a blue card.

Ken is going to throw a biased dice once.
The probability that the dice will land on six is 0.3
(b) What is the probability that the dice will not land on six?

10 Work out $\frac{1}{6}$ of 66 .

11 Here are the costs of the same type of batteries in two shops.

| Shop A |
| :---: |
| Pack of 4 batteries |
| $£ 1.60$ |

Shop B
Pack of 6 batteries
£2.70

Harry needs to buy at least 30 batteries.
He assumes that he has to buy batteries in whole packs.
Harry wants to buy the batteries as cheaply as possible from the same shop.
(a) Which shop should he buy the batteries from, shop $\mathbf{A}$ or shop $\mathbf{B}$ ?

You must show all your working.

Harry's assumption is wrong.
He can buy single batteries for 40p each in shop A and for 45p each in shop B.
(b) Does this affect which of these two shops Harry should buy the batteries from?

Give a reason for your answer.
$\qquad$
$\qquad$
$\qquad$

12 Change 300 centimetres into metres.

13


Work out the perimeter of this shape.
$\qquad$ cm
(Total for Question 13 is $\mathbf{2}$ marks)

14 Jenna measures all the angles around a point.
Her results are $23^{\circ}, 145^{\circ}, 23^{\circ}$ and $69^{\circ}$
Explain why these results cannot be true.
$\qquad$
$\qquad$
$\qquad$

15 Here are the first five terms of a number sequence.

| 45 | 40 | 35 | 30 | 25 |
| :--- | :--- | :--- | :--- | :--- |

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

A term of this sequence is -5
(ii) Which term?

The $n$th term of a different sequence is given by the expression $4 n+3$
(b) Find the 9th term of this sequence.
$\qquad$

16 The scatter graph shows information about the volume of traffic and the carbon monoxide level at a point on a road each day for 22 days.


One point is an outlier.
(a) Write down the coordinates of this point.
$\qquad$
For another day, 370 cars pass the point on the road.
(b) Estimate the carbon monoxide level for this day.
$\qquad$

Alfie says,
"Because there is an outlier, there is no correlation."
(c) Is Alfie correct?

You must give a reason for your answer.
$\qquad$
$\qquad$
$\qquad$
$17 P Q R S$ is a quadrilateral.
$P S T$ is a straight line.


Find the value of $y$.

$$
y=
$$

(a) Write $4.5 \times 10^{5}$ as an ordinary number.
$\qquad$
(b) Write 0.007 in standard form.
(c) Work out $4.2 \times 10^{3}+5.3 \times 10^{2}$

Give your answer in standard form.

