Please check the examination details below before entering your candidate information

| Candidate surname | Other names |
|---|---|
| | |

**Pearson Edexcel**
**Level 1/Level 2 GCSE (9–1)**

Centre Number | | | | | |

Candidate Number | | | | |

**Mock Set 6 – Spring 2021**

Time: 1 hour 30 minutes

Paper Reference **1MA1/3F**

# Mathematics

## Paper 3 (Calculator)
## Foundation Tier

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

Total Marks

## 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 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.*

## Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

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1/1/1/1/1/

S 6 8 5 9 2 A 0 1 2 0

Pearson

**Answer ALL questions.**

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

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

**1** Write 4683 correct to the nearest 100

.....

**(Total for Question 1 is 1 mark)**

**2** Write the following numbers in order of size.
Start with the smallest number.

0.302 0.4 0.05 0.36 0.087

.....

**(Total for Question 2 is 1 mark)**

**3** Write $2\frac{1}{2}$ hours in minutes.

..... minutes

**(Total for Question 3 is 1 mark)**

**4** Find the number that is exactly halfway between 16 and 25

.....

**(Total for Question 4 is 1 mark)**

**5** Write 8% as a decimal.

.....

**(Total for Question 5 is 1 mark)**

**6** Saj has made 7 litres of curry sauce.

He wants to put the curry sauce into jars.
Each jar can be completely filled with 375 millilitres of curry sauce.

Saj wants to completely fill as many jars as possible with curry sauce.

How many jars can he fill?

.....

**(Total for Question 6 is 3 marks)**

**7** Here are 6 numbers.

74 91 62 79 85 98

Work out the mean of these numbers.

.....

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

**8** Each day on holiday, Luka chooses a T-shirt and a pair of shorts to wear.

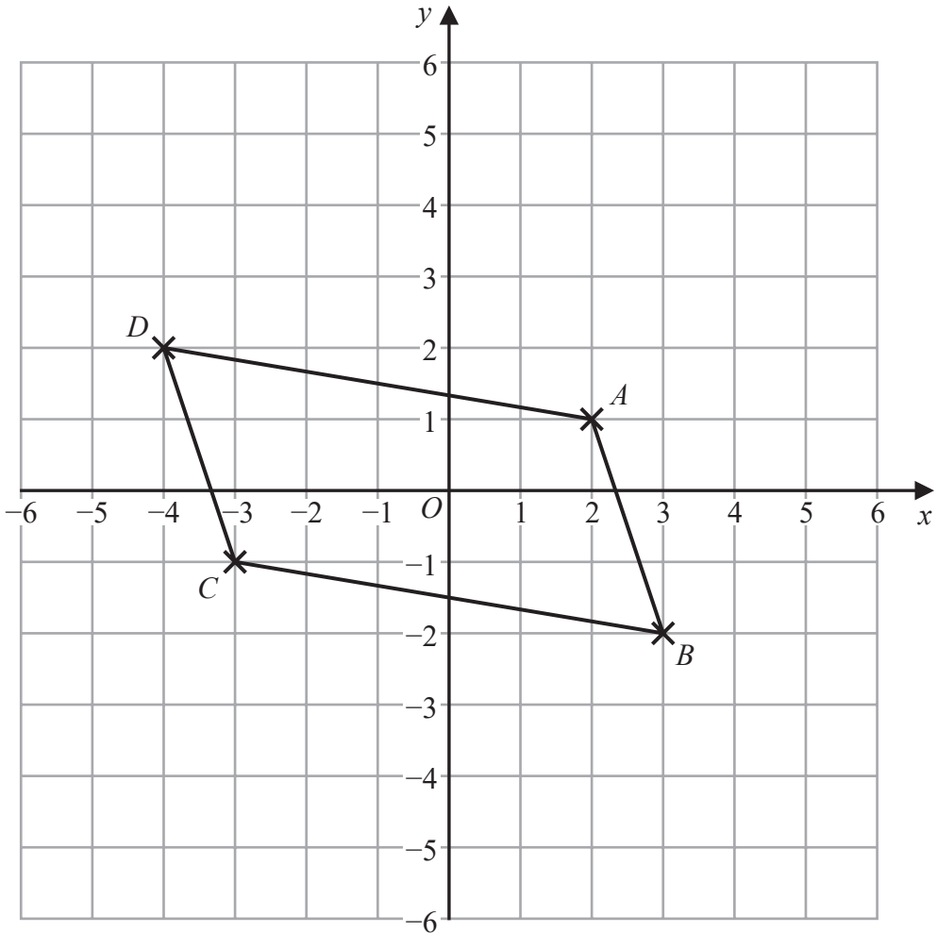
The colour of each T-shirt is blue, grey or white.
The colour of each pair of shorts is blue, grey or white.

Use the table below to list all the possible combinations of the colours that Luka can choose to wear.

| T-shirt | Pair of shorts |
|---|---|
| | |

**(Total for Question 8 is 2 marks)**

**9**




(a) Write down the coordinates of point $A$.

(.....  , .....)

**(1)**

(b) Write down the coordinates of point $C$.

(.....  , .....)

**(1)**

(c) Write down the mathematical name of quadrilateral $ABCD$.

.....

**(1)**

(d) On the grid, draw the line with equation $x = -5$

**(1)**

**(Total for Question 9 is 4 marks)**

**10** Andrew is working out expenses for his job.
He can claim 45p for each mile that he drives as part of his job.

For one journey he writes down

| | |
|---|---|
| Mileage at end of journey | 79 165 |
| Mileage at start of journey | 78 937 |

(a) Work out how much money Andrew can claim for this journey.
Give your answer in pounds.

£.....

**(3)**

Andrew can also claim 35% of his phone bill.
His phone bill for the year is £540

To work out 35% of £540 Andrew writes,

10% of 540 is 540 ÷ 10 so 35% of 540 is 540 ÷ 35

(b) What mistake has Andrew made?

.....

.....

.....

**(1)**

**(Total for Question 10 is 4 marks)**

**11** Here are the ages, in years, of people visiting a leisure centre.

| | | | | | |
|---|---|---|---|---|---|
| 45 | 23 | 56 | 3 | 68 | 2 |
| 35 | 52 | 9 | 38 | 17 | 20 |
| 74 | 34 | 29 | 4 | 31 | 42 |

(a) Complete the grouped frequency table for this information.

**(2)**

| Age | Tally | Frequency |
|---|---|---|
| 0 – 19 | | |
| 20 – 39 | | |
| 40 – 59 | | |
| 60 – 79 | | |

(b) How many people visiting the leisure centre were under 40 years of age?

.....

**(1)**

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

**12** A bag contains only 5p coins, 10p coins and 50p coins where

the number of 5p coins : the number of 10p coins : the number of 50p coins = 4 : 12 : 7

What fraction of the coins in the bag are 10p coins?

.....

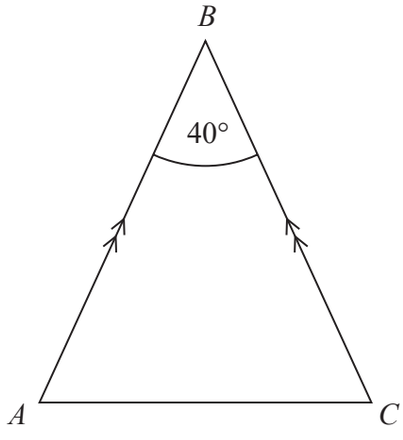
**(Total for Question 12 is 2 marks)**

**13** Molly is given some information about triangle *ABC*.

The triangle is an isosceles triangle with

$BA = BC$ angle $BAC = 40°$

Here is Molly's sketch of triangle *ABC*.




(a) Write down two things that are wrong with Molly's sketch.

1 .....

.....

.....

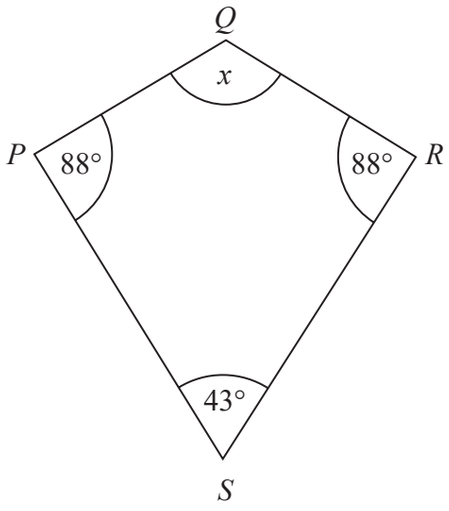
2 .....

.....

.....

**(2)**

(b) The diagram shows a kite *PQRS*.




Work out the size of the angle marked $x$.
Give a reason for your answer.

.....°

**(3)**

**(Total for Question 13 is 5 marks)**

**14** (a) Expand $7(y + 4)$

.....

**(1)**

(b) Factorise $3g^2 - g$

.....

**(1)**

| | | |
|---|---|---|
| expression | equation | formula |
| identity | inequality | |

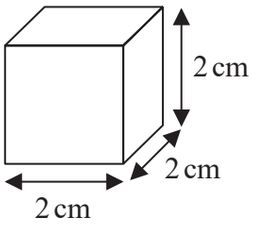
(c) Choose a word from the box above to make this statement correct.

$4(t + 2) = 25$ is an .....

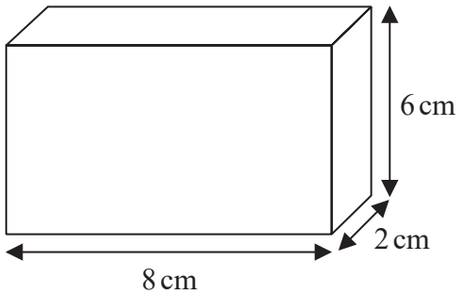
**(1)**

**(Total for Question 14 is 3 marks)**

**15** Here is a cube.




Here is a cuboid.




Show that exactly 12 of the cubes can fit inside the cuboid.

**(Total for Question 15 is 2 marks)**

**16** The stem and leaf diagram shows information about the weights, in kg, of 20 bags.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | 3 | 5 | 5 | 6 | 7 | 9 | |
| 9 | 4 | 5 | 6 | 7 | 8 | 8 | 9 |
| 10 | 1 | 2 | 3 | 4 | 7 | | |
| 11 | 0 | 1 | | | | | |

Key: 8|3 represents 8.3 kg

(a) Find the range of the weights of these bags.

..... kg

**(2)**

One of the 20 bags is chosen at random.

(b) Find the probability that the bag has a weight greater than 10 kg.

.....

**(2)**

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

**17** Sarim is thinking of a number.

$\frac{2}{9}$ of Sarim's number is $x$

$\frac{3}{4}$ of $x$ is 22.5

What is the number Sarim is thinking of?

.....

**(Total for Question 17 is 3 marks)**

**18** $d = 2c - a^2$

$a = 15 \quad c = 3$

(a) Work out the value of $d$

.....

**(2)**

(b) Make $c$ the subject of $d = 2c - a^2$

.....

**(2)**

**(Total for Question 18 is 4 marks)**

**19** (a) Find the highest common factor (HCF) of 78 and 130

.....

**(2)**

(b) Find the lowest common multiple (LCM) of 60 and 96

.....

**(2)**

**(Total for Question 19 is 4 marks)**

**20** Nik owns a stationery shop.
She bought 72 pencils for a total cost of £4.68

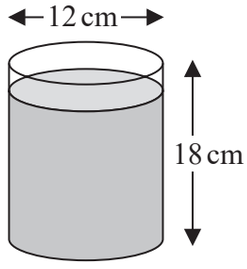
Nik sells all 72 pencils for 15p each.

Work out Nik's percentage profit.
Give your answer correct to 1 decimal place.

.....%

**(Total for Question 20 is 4 marks)**

**21** Joel is going to make candles.
He will pour melted wax into moulds.




Each mould is in the shape of a cylinder with diameter 12 cm and height 18 cm.

Joel has 15 kg of solid wax.
He knows that 1 kg of solid wax makes 1170 $cm^3$ of melted wax.

To make each candle, Joel will pour melted wax into a mould to $\frac{7}{8}$ of the height of the mould.

He wants to make as many candles as he can.

How many candles can Joel make when using 15 kg of solid wax?
You must show your working.

.....

**(Total for Question 21 is 5 marks)**

**22** In January, Lamai worked 45 hours per week and got paid £12.50 per hour.

In February, the number of hours Lamai worked per week was 20% less than the number of hours she worked per week in January.

She was paid 32% more per hour in February than in January.

Work out how much more Lamai was paid per week in February than in January.

£.....

**(Total for Question 22 is 4 marks)**

**23** Jess rounds a number, $n$, to one decimal place.
The result is 15.6

Complete the error interval for $n$.

..... $\leqslant n <$ .....

**(Total for Question 23 is 2 marks)**

**24** The table gives information about the weights, in kg, of 25 babies.

| Weight ($w$ kg) | Frequency |
|---|---|
| $2.5 < w \leqslant 3.0$ | 4 |
| $3.0 < w \leqslant 3.5$ | 8 |
| $3.5 < w \leqslant 4.0$ | 11 |
| $4.0 < w \leqslant 4.5$ | 2 |

Work out an estimate for the mean weight.

..... kg

**(Total for Question 24 is 3 marks)**

**25** Point $A$ has coordinates $(-4, 2)$

Point $A$ is translated to the point with coordinates $(-1, -3)$

Find, as a column vector, the vector that describes this translation.

$\begin{pmatrix} \ldots\ldots \\ \ldots\ldots \end{pmatrix}$

**(Total for Question 25 is 2 marks)**

**26** It takes $4\frac{3}{4}$ hours to print some letters when 7 printers are used.

Work out the time taken to print the letters when 3 printers are used.
Give your answer in hours and minutes.

..... hours ..... minutes

**(Total for Question 26 is 3 marks)**

**27** (a) Expand and simplify $(x + 2)(x - 5)$

.....

**(2)**

(b) Simplify $(y^{-2})^3$

.....

**(1)**

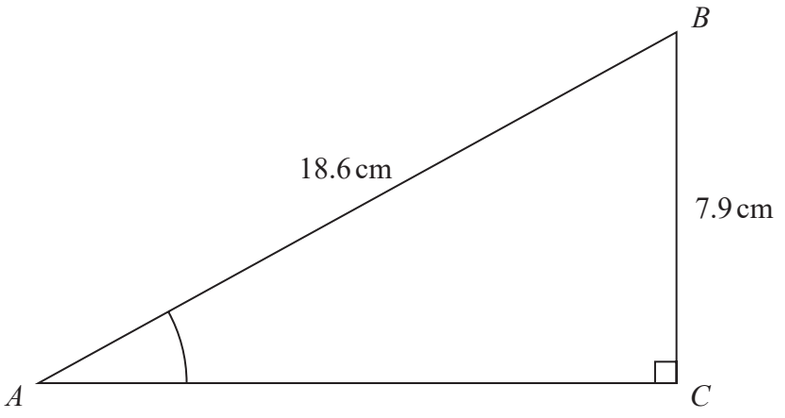
(c) Simplify $\frac{36g^9h}{9g^4h^3}$

.....

**(2)**

**(Total for Question 27 is 5 marks)**

**28** *ABC* is a right-angled triangle.




Work out the size of angle *BAC*.
Give your answer correct to 1 decimal place.

.....°

**(Total for Question 28 is 2 marks)**

**TOTAL FOR PAPER IS 80 MARKS**