For: Pearson Edexcel GCSE (9–1)

GCSE
Practice Paper 1MA1

Mathematics

Paper 3F (Calculator)
Foundation Tier

Surname	Other names

You should have:
A pen, pencil, ruler, eraser and a scientific calculator.
Tracing paper may be used.
A formula sheet.

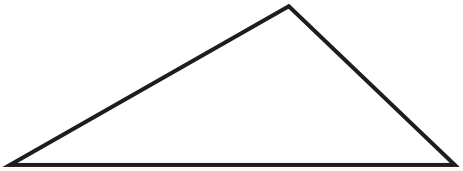
Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets.
- Answer all 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.
- Check your answers if you have time at the end.

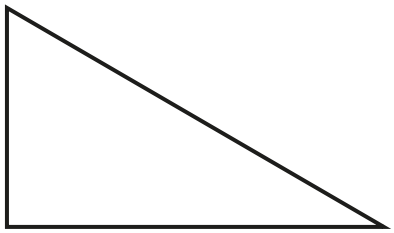
This assessment has been designed by White Rose Maths.
For more information, please visit **www.whiterosemaths.com**

1 Match the names of the shapes to the diagrams.

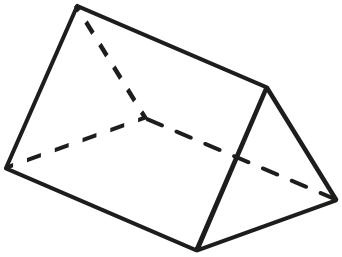
isosceles trapezium



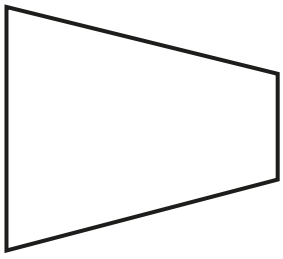
scalene triangle



triangular prism



right-angled triangle



(2 marks)

2 **a)** Work out $\frac{\sqrt{2.786}}{0.965 - 0.28}$

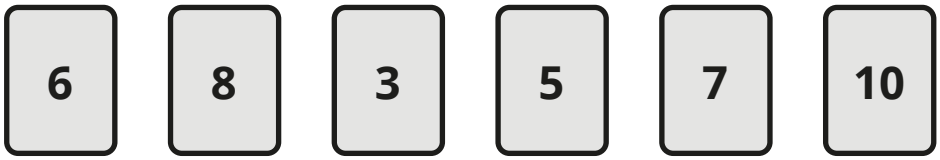
Write down all the figures on your calculator display.

(2 marks)

b) Write your answer to part a) correct to two decimal places.

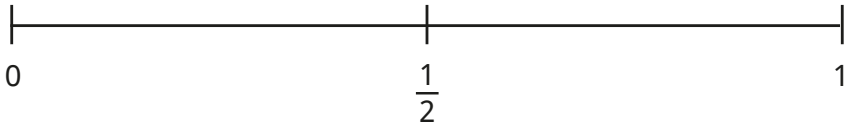
(1 mark)

3 Here are some digit cards.



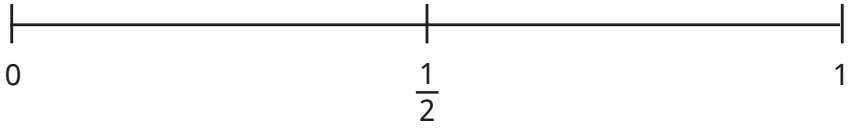
One card is selected at random.

a) On the probability scale, mark with a cross (X) the probability that the number on the card is even.



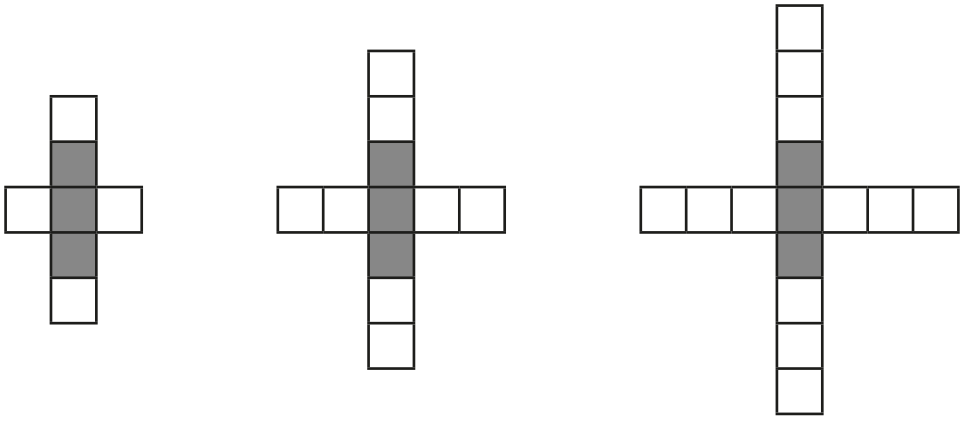
(1 mark)

b) On the probability scale, mark with a cross (X) the probability that the number on the card is greater than 15



(1 mark)

4 Here is a sequence of patterns made from white tiles and grey tiles.



Pattern 1 Pattern 2 Pattern 3

a) Write down the total number of tiles needed to make pattern number 4

(1 mark)

b) Work out the total number of tiles needed to make pattern number 7

(2 marks)

c) Explain why no pattern will use exactly 48 tiles.

(1 mark)

5 Circle the fractions that are equivalent to $\frac{4}{7}$

$\frac{2}{5}$ $\frac{12}{21}$ $\frac{5}{8}$ $\frac{400}{700}$ $\frac{28}{49}$ $\frac{16}{49}$

(2 marks)

6 **a)** Two of the factors of 48 have a difference of 14

What are the two factors?

_____ and _____

(2 marks)

b) Find the lowest common multiple of 12 and 15

_____

(2 marks)

7 **a)** Simplify $7x + 4x - 3x$.

(1 mark)

b) Expand $g(g + 5)$.

(2 marks)

c) Factorise fully $5xy + 15x$.

(2 marks)

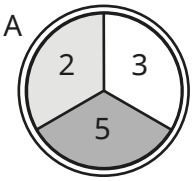
8 Work out the missing number.

$$28 = \frac{\square}{12} \text{ of } 48$$

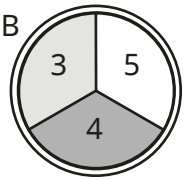
(2 marks)

9 Dora and Jack are playing a game with two spinners, A and B.

Spinner A



Spinner B



To play the game, they spin both spinners and then calculate the product of the results.

a) Complete the sample space to show the possible outcomes.

×	2	3	5
3		9	15
4			20
5		15	

(1 mark)

b) A person wins the game if the product is a 2-digit number.
Show that the probability of winning the game is $\frac{2}{3}$

(2 marks)

10 **a)** Write 27% as a fraction.

(1 mark)

b) Of the 140 people who take their driving test one week, 91 pass.

Work out the percentage of people who pass.

(2 marks)

11 The population density of a country is given by the formula

$$\text{population density} = \frac{\text{population}}{\text{land area}}$$

The population of Jersey is 107 800

The area of Jersey is 116 km^2

Is the population density of Jersey greater than 1000 people per km^2?

Justify your answer.

(2 marks)

12 The data shows class A's scores in a test.

38 42 27 47 16 29 33 37 37 36 18

a) Work out the median score.

(1 mark)

b) Work out the range of the scores.

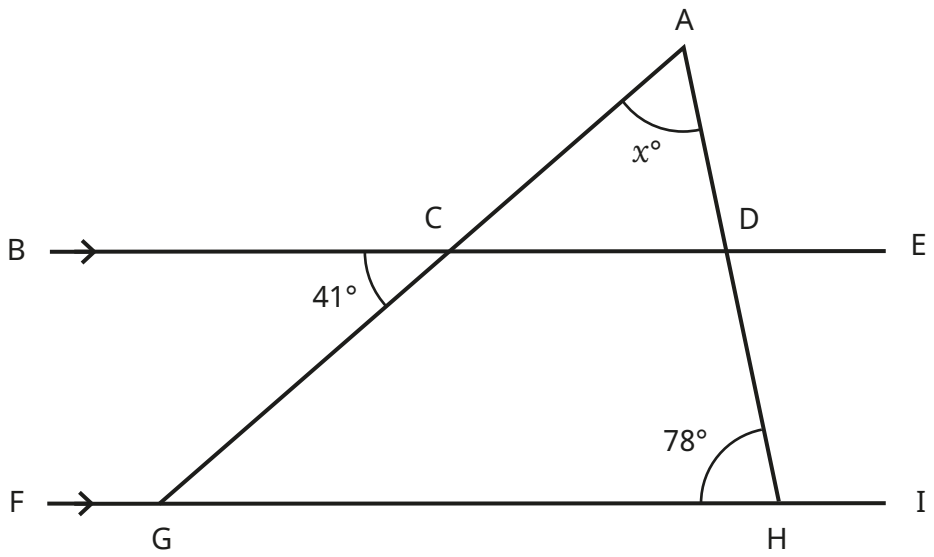
(1 mark)

In class B, the median test score was 39 and the range of scores was 40

c) Compare the results of class A and class B.

(2 marks)

13



BE and FI are parallel.

AG and AH are straight lines.

Work out the value of x.

Give reasons for each stage of your working.

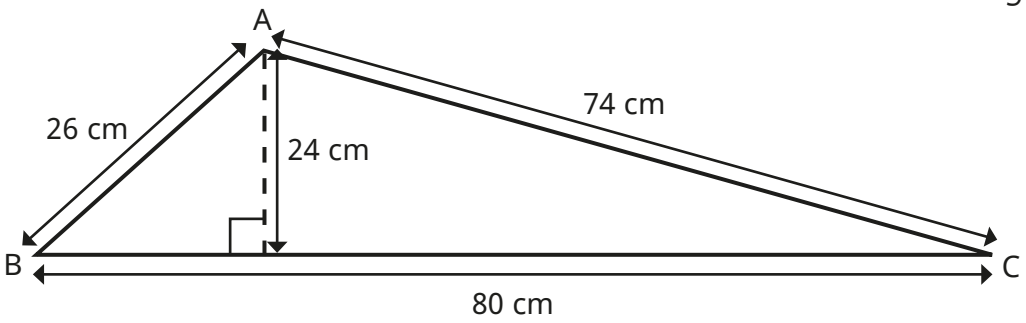
x = _____

(4 marks)

14 Work out the area of the triangle.

Give units with your answer.

diagram not drawn accurately



(3 marks)

15 $a = 2.5$ and $b = -5$

a) Work out $4a - b$.

(2 marks)

b) Work out $b^2 - \frac{1}{2}a$.

(2 marks)

16 Ron is weighing out bags of seeds.

Each bag can hold 35 g of seeds.

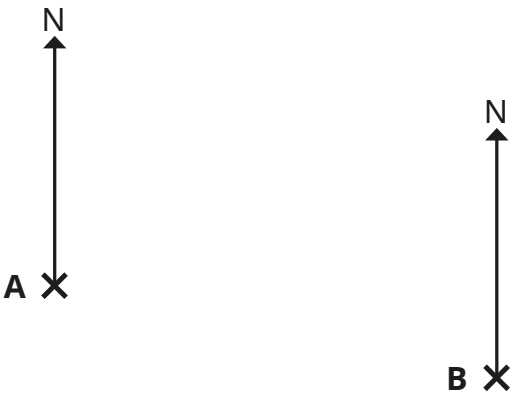
Ron has 600 g of seeds.

Work out the mass of seeds Ron will have left over.

(3 marks)

17 The accurate scale drawing shows the positions of two towns, town A and town B.

2 cm represents 1 km.



a) Find the real distance between towns A and B.

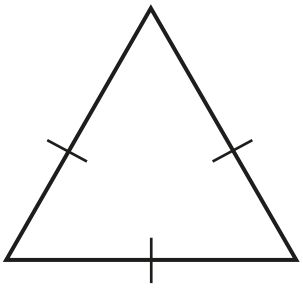
(1 mark)

Town C is 4.6 km from B on a bearing of 240°.

b) Mark the position of town C with a cross (X) on the diagram.

(2 marks)

18 An equilateral triangle has a base length of $(3p - 4)$ cm.



$(3p - 4)$ cm

a) Write an expression for the perimeter of the triangle.

(1 mark)

b) The perimeter of the triangle is 141 cm.

Work out the value of p.

(2 marks)

19 A box of 12 chocolate bars costs £3.20

Amir buys 96 chocolate bars.

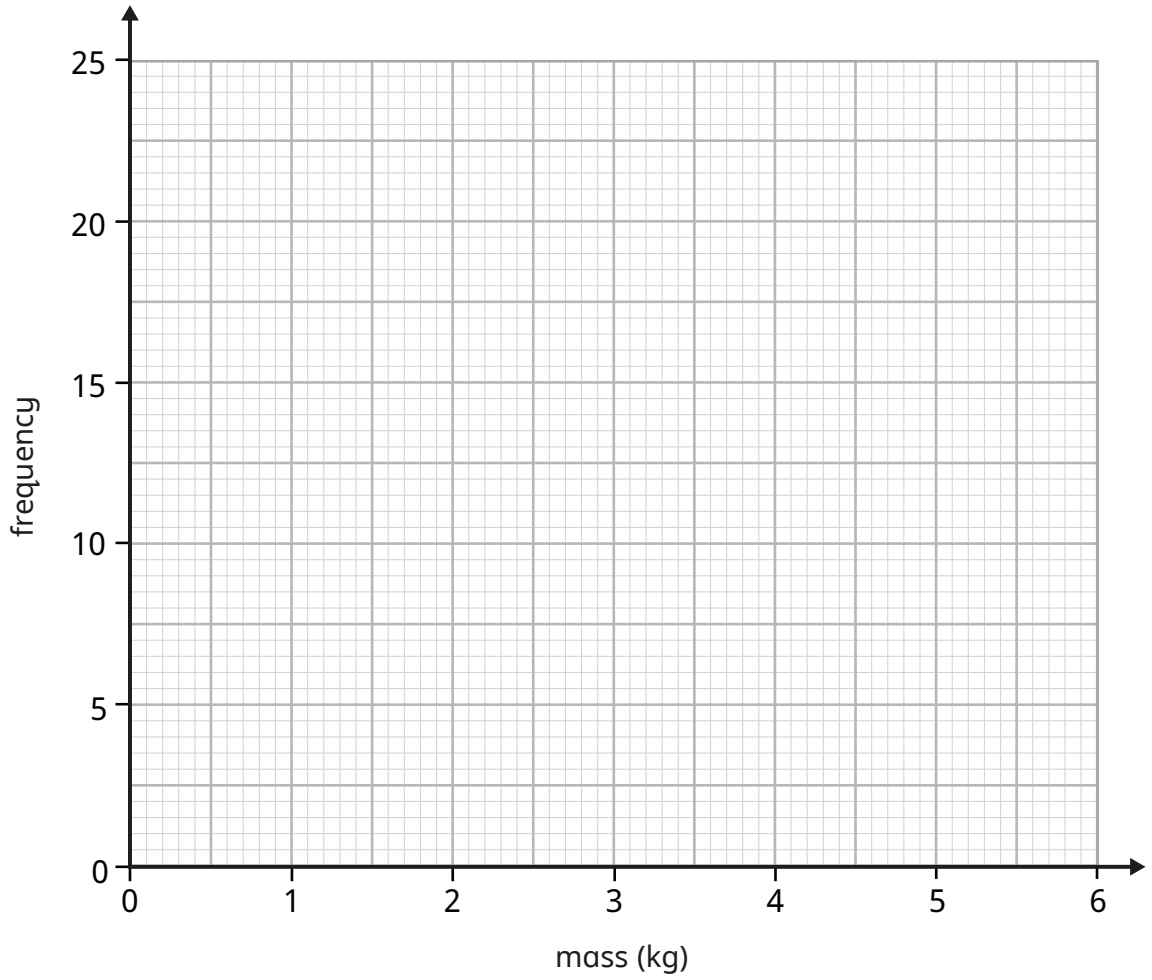
How much does Amir spend?

(3 marks)

20 The table shows the mass, in kilograms, of some dogs.

Mass (kg)	Frequency
$0 < m \leq 1$	4
$1 < m \leq 2$	6
$2 < m \leq 3$	17
$3 < m \leq 4$	10
$4 < m \leq 5$	13
$5 < m \leq 6$	23

Draw a frequency polygon to show this information.



(2 marks)

21 A cheetah runs 330 metres in 15 seconds.

a) Work out the cheetah's average speed.

Give your answer in metres per second (m/s).

_____ m/s

(2 marks)

b) Convert your answer to part a) to kilometres per hour (km/h).

_____ km/h

(2 marks)

22 There are 18 giraffes and 24 elephants in a wildlife park.

a) Write the ratio of giraffes to elephants in its simplest integer form.

(2 marks)

b) Write the ratio of elephants to giraffes in the form 1 : n.

(1 mark)

23 The value of a car decreases by 15% in the first year after it is bought.

a) Miss Fisher buys a car for £18 000

Find the value of Miss Fisher's car after one year.

(2 marks)

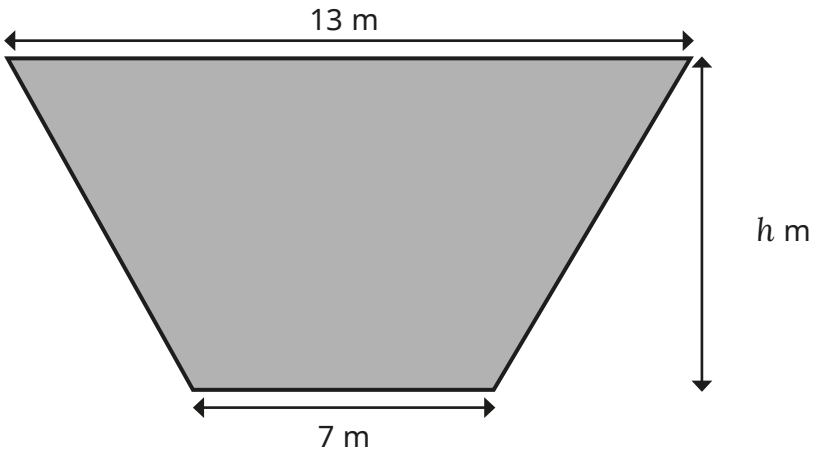
b) One year after purchase, Mr Patel's car is worth £17 850

How much did Mr Patel pay for the car?

(2 marks)

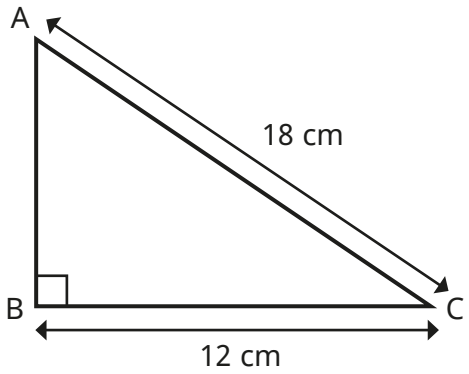
24 The area of the trapezium is 40 m^2

Work out the height, h, of the trapezium.



(3 marks)

25 Work out the length of AB, giving your answer to 3 significant figures.



(3 marks)

26 Rearrange $q = \frac{w}{3} - 7$ to make w the subject.

(2 marks)