

Centre Number Candidate Number

Surname _____

Forename(s) _____

Signature _____

GCSE MATHEMATICS

F

Foundation Tier Paper 1 Non-Calculator

Tuesday 1 November 2022 Morning Time allowed: 1 hour 30 minutes

Student Self Reflection

Topics/Question I need to **revise**

Topics/Questions I need to **learn**

For teacher use	
Pages	Mark
2-3	
4-5	
6-7	
8-9	
10-11	
12-13	
14-15	
16-17	
18-19	
20-21	
TOTAL	



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

1 Circle the square number [1 mark]

7

8

9

10

2 Circle the expression that means 3 more than y [1 mark]

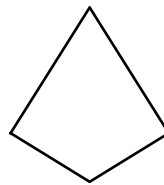
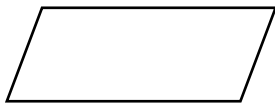
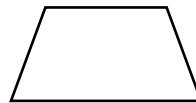
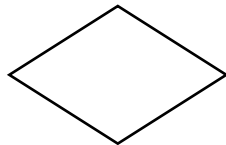
$3y$

$y + 3$

$y - 3$

y^3

3 Circle the Rhombus [1 mark]





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outside the
box

4 $1724 \div 3.2 = 538.75$

Circle your answer to $17.24 \div 3.2$

[1 mark]

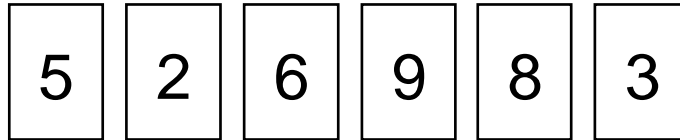
5.3875

53.875

5387.5

53875

5 Max has some numbered cards.



He selects four of the cards to make a 4 digit number.

5 (a) Write down the largest number that Max can make.

[1 mark]

Answer _____

5 (b) Write down the largest **even** number that Max can make.

[1 mark]

Answer _____

5 (c) Write down the smallest **odd** number that Max can make.

[1 mark]

Answer _____

$\frac{7}{7}$

Turn over ►





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6 Work out $\frac{3}{4}$ of 120 **[2 marks]**

Answer _____

7 Gwen goes shopping and buys
3 bunches of bananas costing £2.50 each
1 can of drink costing £0.60
She pays with a £10 note.
How much change does she receive? **[3 marks]**

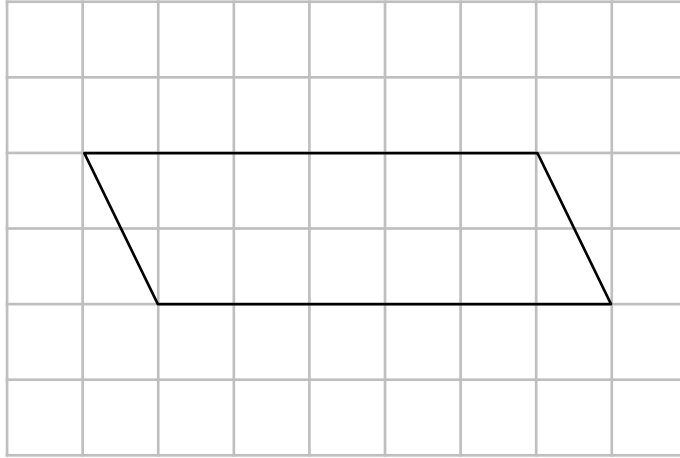
Answer _____





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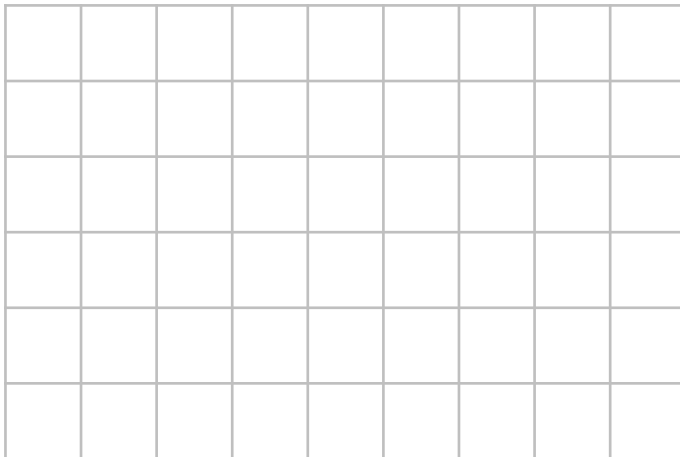
8 Each square on the grids below represents 1 cm^2



8 (a) Work out the area of the parallelogram [2 marks]

Answer _____

8 (b) On the grid below, draw a triangle with an area of 12 cm^2 [2 marks]



Turn over ►

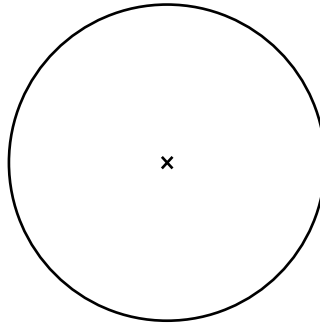




9 (a) Draw a **diameter** onto the circle below.

[1 mark]

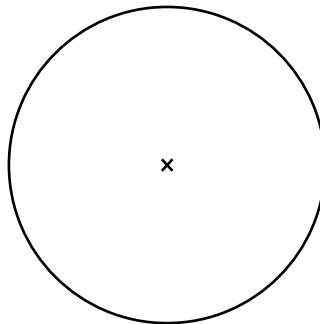
The centre of the circle is marked with a ×



9 (b) Draw a **segment** onto the circle below.

[1 mark]

The centre of the circle is marked with a ×





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10 Richard wins a prize of £600.

He gives 10% of the prize to Sean.

He gives $\frac{2}{3}$ of the prize to Neil.

How much money in total does he give to Sean and Neil?

[3 marks]

Answer _____

11 Damian spends 50 minutes revising for his maths test.

Emma spends $1\frac{1}{4}$ hours revising for her maths test.

Write as a ratio, in its simplest form, the amount of time that Damian spends revising to the amount of time that Emma spends revising.

[2 marks]

Answer _____ : _____

$\frac{7}{7}$

Turn over ►





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12 10% of $k = 1.4$
5% of $k = 0.7$

12 (a) Work out 35% of k **[2 marks]**

Answer _____

12 (b) Work out the value of k **[2 marks]**

Answer _____

13 20 students attend a homework club.

9 students choose to work on maths homework.
8 students choose to work on English homework.
All remaining students choose to work on science homework.

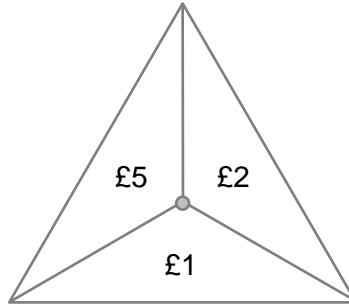
What percentage of students work on their science homework? **[3 marks]**

Answer _____ %





14 In a game, a fair spinner has three equal sections as shown.



Players spin the spinner and win the amount that it lands on.

A player gets to play the game 24 times.

Work out how much money you would expect this player to win in total. **[3 marks]**

Answer _____





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15 Work out 24.8×3.2

[3 marks]

Answer _____

16 A bag contains coloured counters that are either red, blue or yellow.
There are 60 counters in the bag, 20 of which are red.
The ratio of red counters to blue counters is 5 : 3.

Work out how many yellow counters are in the bag.

[3 marks]

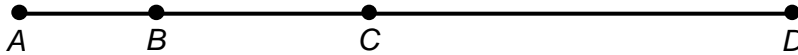
Answer _____





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17 B and C are points on the straight line AD .



Not drawn
accurately

$$AB = 6 \text{ m}$$

$$AC = 3 \times AB$$

$$BD = 5 \times AB$$

Work out the length of CD .

Give your answer in **centimetres**.

[4 marks]

Answer _____

Turn over ►








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18 Jim places 25 coloured shapes into a bag.
The shapes are either a square, triangle, or circle.
The colour of the shapes is either blue or red.

The table below shows how many shapes there are of each colour.

			
Blue	4	3	
Red	6	4	3

18 (a) Complete the table.

[2 marks]

18 (b) A shape is selected from the bag at random.

Work out the probability that the shape is a square.
Give your answer as a fraction in its **simplest form**.

[2 marks]

Answer _____





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19 x is an integer

$$-3 \leq x \leq 4$$

and

$$-6 < x < 0$$

Work out all the possible values of x .

[3 marks]

Answer _____

20 Write $\frac{3}{8}$ as a decimal.

[2 marks]

Answer _____

Turn over ►





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21 Solve $33 = 3x - 3 + 7x - x$

[3 marks]

$x =$ _____

22 Circle the value of $\tan 60^\circ$

[1 mark]

$\sqrt{3}$

$\frac{\sqrt{2}}{2}$

$\frac{\sqrt{3}}{2}$

$\frac{\sqrt{3}}{3}$





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23 (a) Write the ratio 8 : 5 in the form $n : 1$

[1 mark]

Answer _____ : _____

23 (b) Divide 180 in the ratio 1 : 4 : 5

[3 marks]

Answer _____ : _____ : _____

$\frac{\quad}{8}$

Turn over ►





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24 Work out the product of $2\frac{1}{3}$ and $1\frac{1}{2}$

Give your answer as a decimal.

[3 marks]

Answer _____

25 Write $\frac{5^4 \times 5^2}{5^{-3}}$ as a power of 5.

[3 marks]

Answer _____





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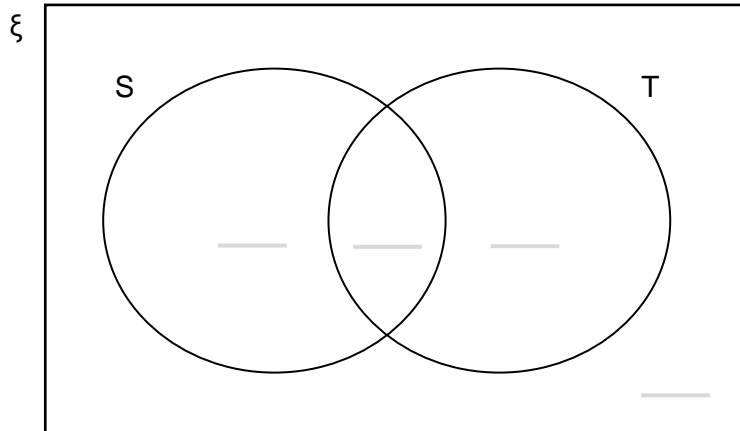
26 The Venn Diagram below shows information about 100 students.

Each of the students was asked if they have Snapchat or TikTok.

$\frac{2}{5}$ of the students had Snapchat and TikTok.

15 students had Snapchat but not TikTok.

In total 75 students had TikTok.



Complete the Venn Diagram.

[4 marks]

Turn over ►

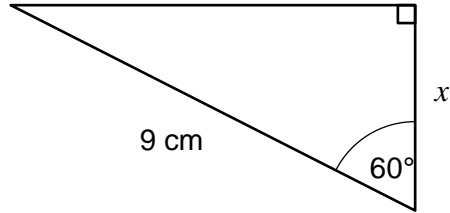




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27 (a) Use trigonometry to work out the length x .

[3 marks]

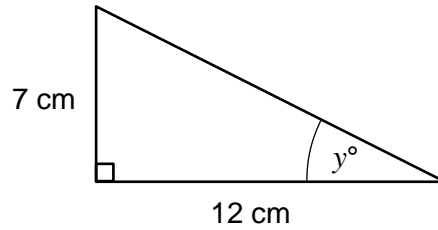


Answer _____ cm





27



Andy uses trigonometry to work out the size of angle y .

Andy's working:

$$\begin{aligned}\tan(y) &= \frac{12}{7} \\ y &= \tan^{-1}\left(\frac{12}{7}\right) \\ y &= 59.7^\circ\end{aligned}$$

27 (b) Explain the mistake that Andy has made in his working.

[1 mark]

$\frac{1}{4}$

Turn over ►





28 Here is some information about the number of detentions received by students in a class.

Detentions	Frequency
0	5
1	10
2	7
3	a
4	1
5	0

28 (a) Work out the range of the number of detentions. **[1 mark]**

Answer _____

28 (b) The median number of detentions is 1.
Work out the largest possible value for a . **[3 marks]**

Answer _____





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29

$$\mathbf{a} = \begin{pmatrix} 5 \\ -3 \end{pmatrix}$$

$$\mathbf{b} = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$$

Work out $\mathbf{a} + 3\mathbf{b}$

[2 marks]

Answer

$$\left(\quad \right)$$

END OF QUESTIONS

