Centre Number ☐☐☐☐☐ Candidate Number ☐☐☐☐

Surname _____

Forename(s) _____

Signature _____

GCSE
MATHEMATICS

F

Foundation Tier   Paper 2 Calculator Allowed

Tuesday 7 June 2022   Morning   Time allowed: 1 hour 30 minutes

Student Self Reflection

Topics I need to *revise*

Topics I need to *learn*

Silly Mistakes?

Target mark for next time

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	
22	
TOTAL	

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

1 Circle the range of 15 and 10
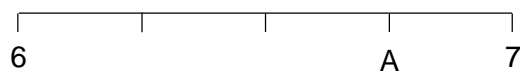
[1 mark]

1.5   5   25   150

2 Circle the expression equivalent to $a \times a - b \times 3$

[1 mark]

$a^2 - 3b$ $2a - 3b$ $a^2 - b^3$ $2a - b^3$

3 Here is a number line.

Which number is at A?

Circle your answer.

[1 mark]

6.3   6.75   6.8   6.9

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4   Circle the calculation that gives the answer 12.   **[1 mark]**

$3 + 3 \times 2$ $3^2 \times 2$ $6 + 12 \div 2$ $2 \times 2 + 2 \times 3$

5   Choose **one** of the following to make a correct statement each time.

[3 marks]

is less than   is equal to   is greater than

$\dfrac{2}{3}$ _____ 0.6

$\dfrac{3}{8}$ _____ 0.38

$\dfrac{24}{5}$ _____ $4\dfrac{3}{5}$

7

Turn over ▶

6   335 students attend a school trip.

A coach can take 62 students. The school hires 4 coaches.

Any remaining students will attend on minibuses.

Each minibus can hold 14 students.

Work out how many minibuses the school needs to hire.

[3 marks]

Answer _____

7   Hannah goes to the cinema to watch a film.

At 2:25pm the adverts start and last for 15 minutes.

After the adverts the film beings and lasts for 1 hour and 37 minutes.

At what time does the film finish?

[2 marks]

Answer _____

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8   Alvin, Simon and Theo all collect marbles.

Alvin has k marbles.

Simon has 3 more marbles than Alvin.

Theo has twice as many marbles as Alvin.

Complete the table by writing an expression in for Simon and Theo.

[2 marks]

Person	Number of marbles
Alvin	k
Simon	
Theo	

9   Factorise fully $8t - 12$ **[2 marks]**

Answer _____
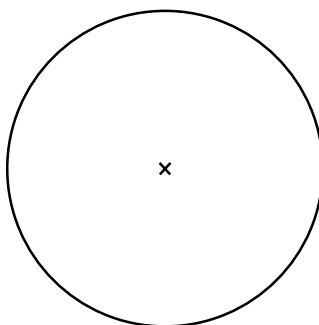
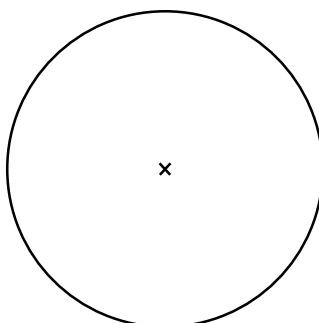**10 (a)** Draw a **tangent** onto the circle below.

[1 mark]

The centre of the circle is marked with a ×

10 (b) Draw a **sector** onto the circle below.

[1 mark]

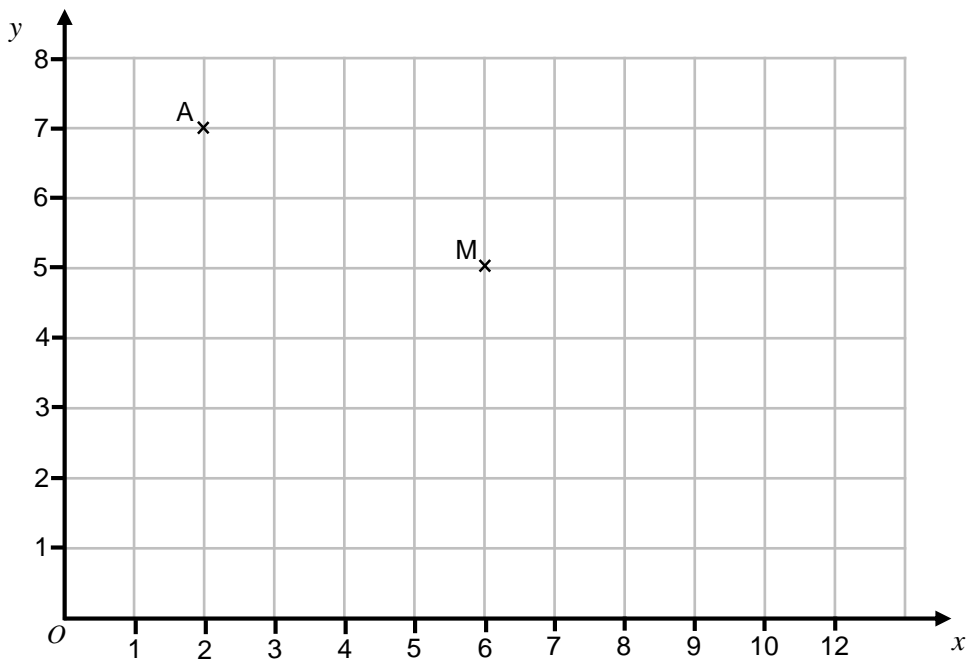The centre of the circle is marked with a ×

Turn over ▶

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11

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

[1 mark]

Answer (_____ , _____)

11 (b) M is the midpoint of the line segment AB.

Work out the coordinates of point B.

[2 marks]

Answer (_____ , _____)

5

Turn over ▶

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12   Ashleigh needs to buy 16 apples.

The prices in the supermarket are shown below.

Single apple   25p

Pack of 5 apples   £1.20

Pack of 8 apples   £1.95

What is the cheapest price for 16 apples.

[4 marks]

Answer £_____

Turn over ▶

Video Solutions

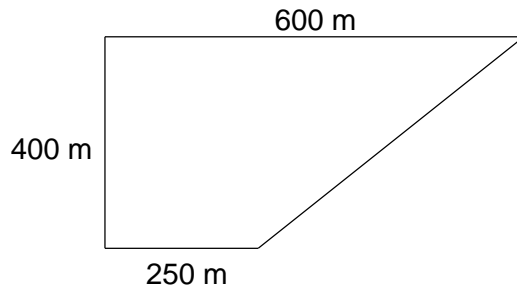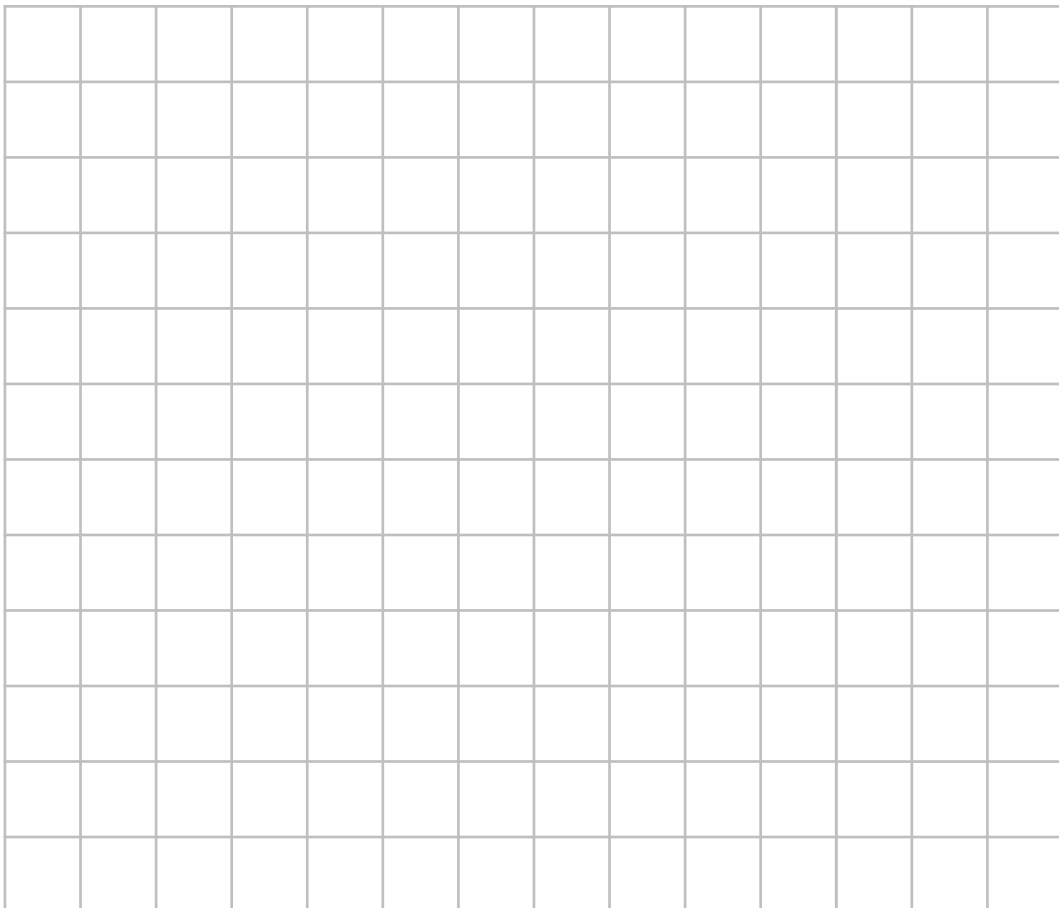**13**   A farmer's field is shown below.

600 m

400 m

Not drawn accurately

250 m

Draw a scale diagram of the farmer's field on the grid below.   **[3 marks]**
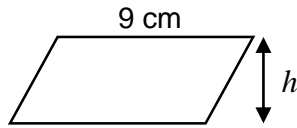
Use the following scale: 1cm represents 50m
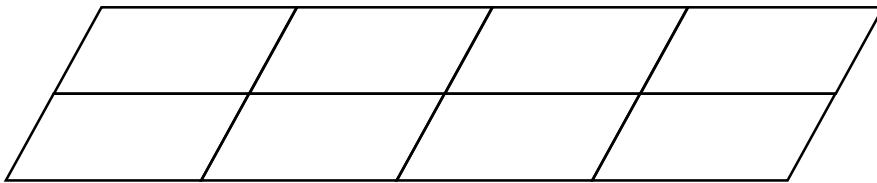
7

Video Solutions

14 Here is a parallelogram.

It has a width of 9cm and perpendicular height h.

9 cm

h

Not drawn accurately

8 identical parallelograms are used to make a compound shape below.

The area of the compound shape is 432 cm^2

Calculate the value of h.

[3 marks]

Answer _____ cm

Video Solutions

15 Here is a straight line graph.
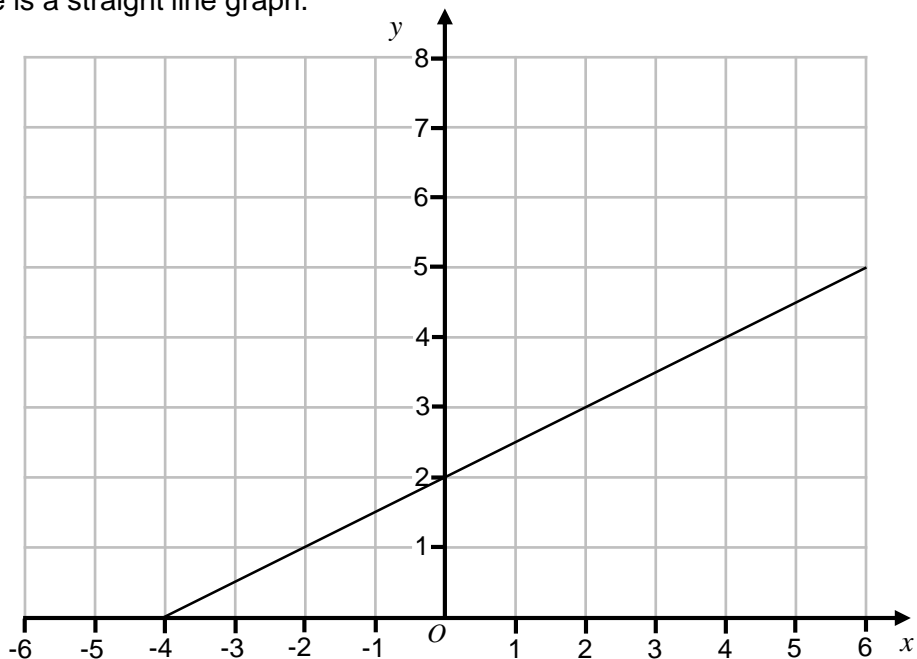
15 (a) Write down the coordinates of the y-intercept

[1 mark]

Answer (_____ , _____)

15 (b) Work the gradient of the line.

[2 marks]

Answer _____

15 (c) Use your answers to parts (a) and (b) to write down the equation of the line.

[1 mark]

Give your answer in the form $y = mx + c$

Answer _____

7

Video Solutions

16   A sweet shop sells 150g of sweets for £1.32

Work out the cost of buying 475g of sweets.   **[3 marks]**

Answer £_____

17   A bag contains blue and yellow counters.

84% of the counters are blue.

Write the ratio of blue counters to yellow counters.

Give your answer in the form $n : 1$ **[2 marks]**

Answer _____ : _____

Video Solutions

18   Here is a parallelogram.
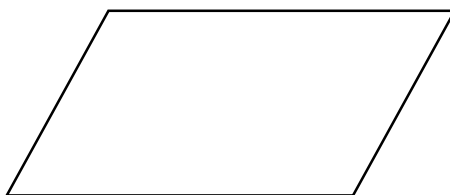
Below are statements about parallelograms.

Tick the correct box for each statement.

[3 marks]

	Always True	Could be True	Never True
All sides are equal in length	☐	☐	☐
Opposite angles are equal in size	☐	☐	☐
Adjacent angles add to 180°	☐	☐	☐

19   The ratio of males to females in a class is   2 : 3

[1 mark]

To the nearest percent, what percentage of the class are females?

Circle your answer.

40%   47%   60%   67%

9

20   Harpreet thinks of a decimal number.

$\dfrac{4}{5}$ of his number $= \dfrac{1}{4}$ of 60

Work out Harpreet's number.

[3 marks]

Answer _____

21   The point (3, 2) lies on the graph of one of the equations below.

[1 mark]

Circle the correct equation.

$y = 2x - 4$ $y = 2x + 1$ $y = 2x + 4$ $y = 2x - 1$

22 Olivia is playing a game at the fair. The probability that she wins is 0.3.

Olivia plays the game to try and win a prize.

If she wins the first attempt, she stops and takes her prize.

If she loses the first attempt, she tries one more time.

22 (a) Complete the tree diagram

[1 mark]

First Attempt   **Second Attempt**

```
                    Win
             0.3 /
               /
             /                          0.3      Win
            \                              /
             \                           /
       _____  \                         \
               Lose  ------------------- \
                                          \
                              _____      Lose
```
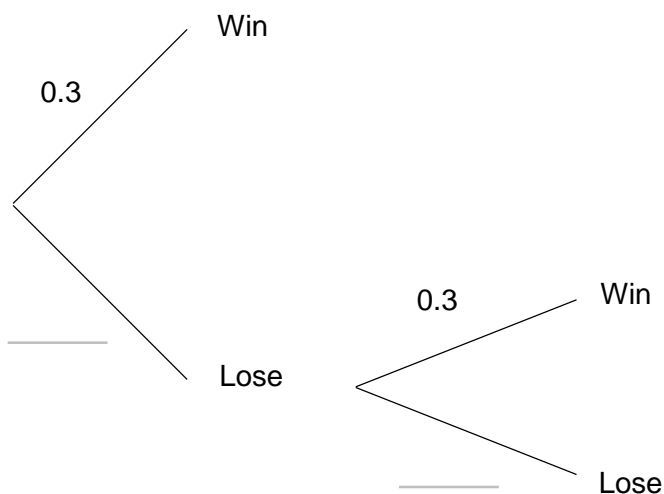
22 (b) Calculate the probability that Olivia does not win a prize.

[2 marks]

_____

_____

_____

_____

Answer _____

7

Turn over ▶

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23   Jim is playing Chess against a computer.

He records his results of the first 20 games in the table below.

Wins	7
Draws	2
Losses	11

23 (a)   Write down the relative frequency of wins.

[1 mark]

Answer _____

23 (b)   Jim plays a total of 400 games against the computer before retiring.

Use your answer to part (a) to estimate the number of times that Jim won.

[2 marks]

Answer _____

Video Solutions

24   The table shows the share price for a company during January and March.

January	£3.00
February	
March	£1.08

From January to February the share price increased by 20%

24 (a)   Calculate the share price for February.   **[2 marks]**

Answer _____

24 (b)   Calculate the percentage decrease in the share price from February to March.
                                                                [2 marks]

Answer _____ %

7

Turn over ▶

Video Solutions

25   Here is a triangle ABC
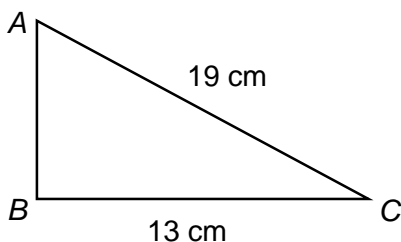
Angle *ABC* = 90°

Calculate the length AB.

Give your answer to 1 decimal place.

[3 marks]

Answer _____ cm

26   Write $7(2p + 4) - 2(p - 5)$ in the form $ap + b$

Where a and b are integers.

[3 marks]

Answer _____

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27 $x + 7 = 22$
$y = 18$

What percentage of y does x represent?

[3 marks]

Answer _____ %

28   A vet records the mass of dogs that visit their surgery.

The mean mass of the first 8 dogs is 34.2 kg.

The next dog to come in has a mass of 27kg.

Calculate the mean mass of all 9 dogs.

[3 marks]

Answer _____ kg

Turn over ►

12

Video Solutions

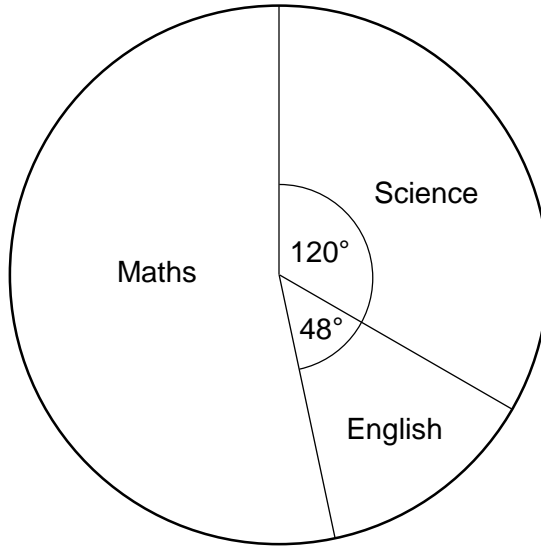**29**   The pie chart shows the favourite core subject of students at a large school.

430 of the students selected science.

Work out how many students selected Maths.

[3 marks]

Answer _____

Video Solutions

30 P is a prime number.
C is a cube number.

$C = 2P + 1$

Find a possible set of values for P and C.

[3 marks]

_____

_____

_____

_____

_____

_____

_____

_____

$P =$ _____ $C =$ _____

Turn over for next question

6

Video Solutions

31 Machine A can produce a can every 2 seconds.
Machine B can produce a can every 1.2 seconds.

A company needs to produce 2480 cans.

Both machines on turned on together at 1pm and they start producing cans.

At 1:25pm Machine B is turned off due to overheating.
Machine A continues producing the cans.

At what time will the required number of cans be produced?

[4 marks]

Answer _____

END OF QUESTIONS

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