



Rewarding Learning

**General Certificate of Secondary Education
2020**

Centre Number

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Candidate Number

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Mathematics

Unit M6 Paper 1

(Non-calculator)

Foundation Tier



PRACTICE PAPER

TIME

1 hour

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in the question paper.

Complete in blue or black ink only. **Do not write in pencil or with a gel pen.**

Answer **all sixteen** questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You **must not** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 50

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

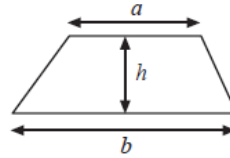
Functional Elements will be assessed in this paper.

You should have a ruler, compasses and protractor.

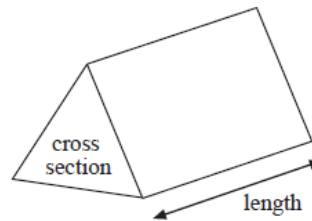
The Formula Sheet is on page 2.

Formula Sheet

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section \times length



1. Write down a WORD to describe the chance of each of these happening.

(a) Getting a multiple of 10 when you roll a fair dice once.

Answer _____ [1]

(b) Not getting a six when you roll a fair dice once.

Answer _____ [1]

(c) Taking a blue pen out of a box which contains 8 blue, 5 black and 3 red pens.

Answer _____ [1]

2. Here is a number pattern

9, 18, 36, 72, 144, 288,

(a) What is the rule?

Answer _____ [1]

(b) Write down the triangular number in the number pattern.

Answer _____ [1]

(c) Two of the numbers in the number pattern add together to give a cube number. Write down the 2 numbers.

Answer _____ and _____ [1]

3. A sequence has the rule “multiply by 2 and add 6”. The third term of the sequence is 186.

What is the first term of the sequence?

Answer _____ [2]

4. 22 girls, 20 boys, 15 women and 3 men are at the cinema on Saturday morning.

One of them is selected at random to get free popcorn.

What is the probability that

- (a) A boy is selected?

Answer _____ [1]

- (b) A boy is not selected?

Answer _____ [1]

- (c) An adult is selected?

Answer _____ [1]

- (d) A female is selected?

Answer _____ [1]

5. Ann spends 1 hour and 20 minutes on a train journey.

She spends 35 minutes on a phone call, half an hour on the internet and the rest of the time reading a magazine.

Write down the ratio, in its simplest form, of the time spent on the phone call to the time spent on the internet to the time spent reading a magazine.

Answer ____:____:____ [3]

6. Put = or < or > in each box.

(a) 680×0.23 68×23 [1]

(b) 56×29.14 $7 \times 8 \times 29.14$ [1]

(c) $700 \div 0.5$ $700 \div 0.05$ [1]

(d) $-94 - 86 + 17$ $-94 - 86 + 15$ [1]

7. A square has area 52 cm^2 .

Estimate the length of one of the sides of the square.

Answer _____ cm [2]

8. Aaron and Ben are brothers.

Aaron cycled at an average speed of 16 mph for 15 minutes.

Ben cycled at an average speed of 28 km/h for 15 minutes.

They left home at the same time and travelled along the same road.

How far apart were they after 15 minutes?

Answer _____ [3]

9.

(a) Write the decimal number 70 as a Binary number.

Answer _____ [1]

(b) Write the Binary number 1100011 as a decimal number.

Answer _____ [1]

10. Ryan kept a record of the colour of new cars sold during April.

Colour	black	silver	white	red	blue
Probability	0.12				

There was an even chance of a white car being sold.

The probability of silver was twice as likely as black.

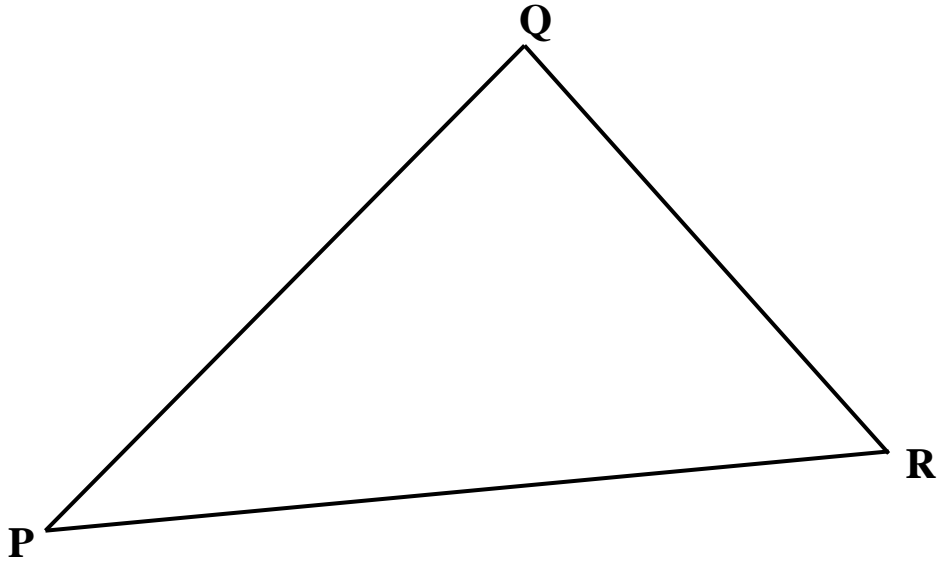
The probability of red and blue was the same.

Complete the table.

[4]

11. Using a ruler and compasses only, construct the bisector of angle QRP.

Show all your construction arcs.



[2]

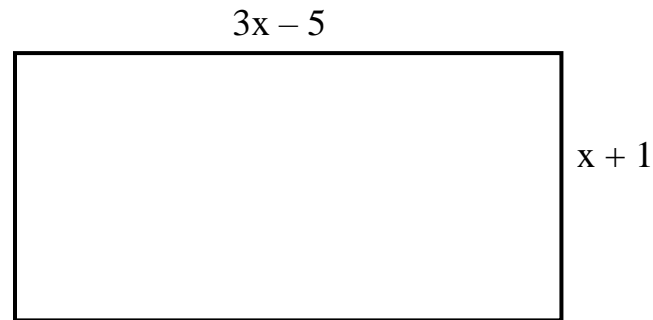
12. Orla has 2 fair coins. She tosses them both at the same time.

She does this 40 times.

How many times do you expect her to get 2 Tails?

Answer _____ [2]

13.



The length of the rectangle is $3x - 5$

The width of the rectangle is $x + 1$

(a) The length is greater than the width.

Use this to write down an inequality.

Answer _____ [1]

(b) Solve your inequality.

Answer _____ [3]

(c) If x is an integer, write down the smallest value that x can have.

Answer _____ [1]

14. Complete each box.

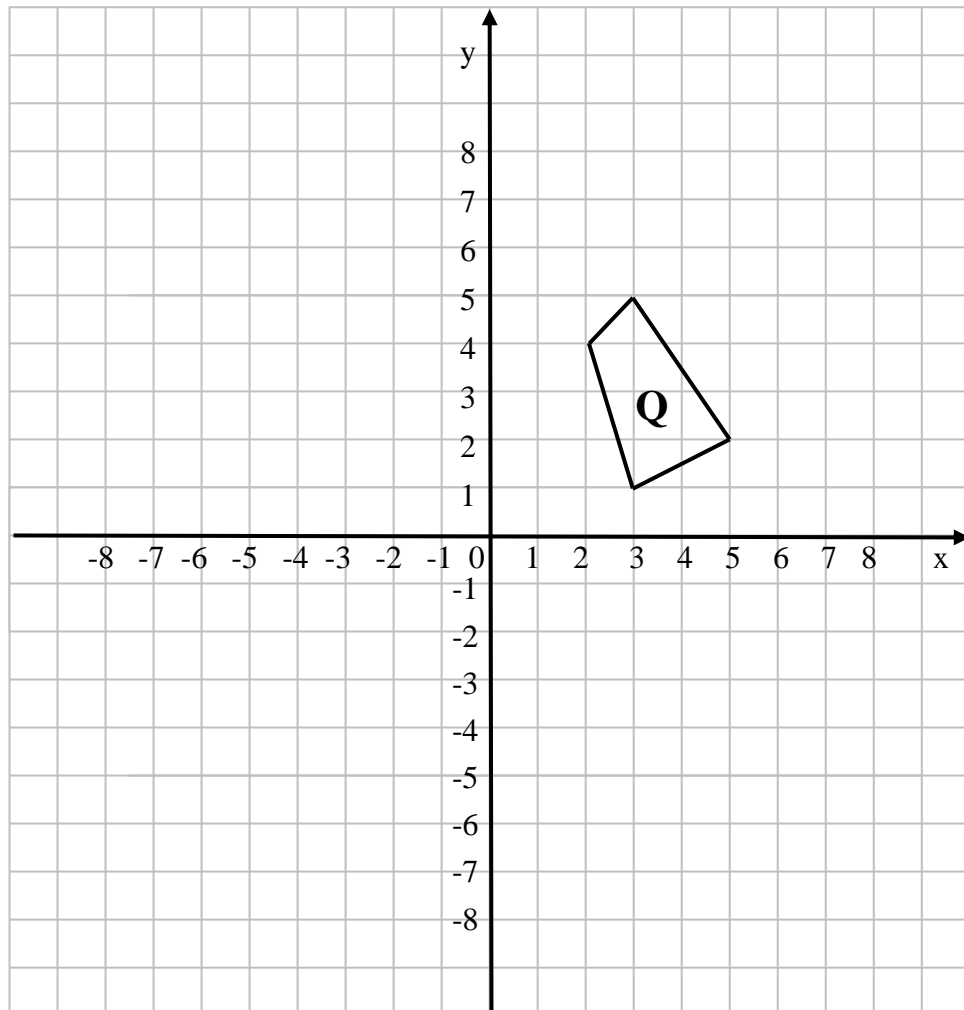
(a) $y^2 \times \square = y^8$

(b) $\square \div w^8 = w^4$

(c) $8m^3 \times \square = 40m^4$

[3]

15.



(a) Reflect shape Q in the y axis. Label the image A.

[2]

(b) Translate shape Q $\left(\begin{array}{c} 1 \\ -5 \end{array} \right)$
Label the image B.

[2]

16. There are 900 pupils at a school.

The probability that a girl at the school plays football is 0.4

The probability that a boy at the school plays football is 0.6

The probability that a pupil at the school is a girl is 0.45

The principal says that over half the pupils at the school play football.

Is he right? Explain.

[4]

THIS IS THE END OF THE QUESTION PAPER
