

Mathematics

Unit M2 Paper 1

Name _____

Foundation Tier

(Calculator)

PRACTICE PAPER

TIME

1 hour 15 minutes

INSTRUCTIONS TO CANDIDATES

Write your name in the space provided.

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

Complete in blue or black ink only. Do not use pencil or gel pens.

Answer **all seventeen** questions.

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

Where rounding is necessary give answer to **2 decimal places**.

INFORMATION FOR CANDIDATES

Total mark for this paper is **50**.

The figures in brackets on the right hand side indicate the marks awarded to each question or part question.

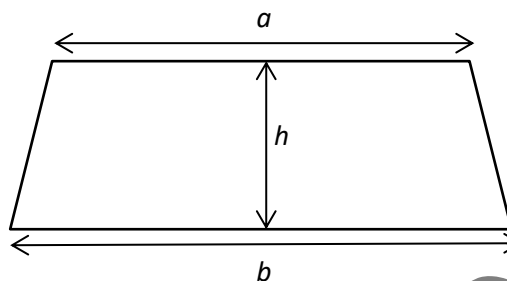
Calculator and Non-Calculator questions are clearly marked.

The Formula Sheet is on page 1.

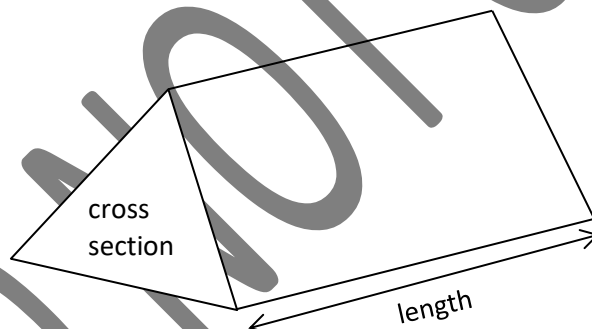
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
Total Marks /50	

Formula Sheet

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



Volume of prism = area of cross section x length



1. (i) Write 72 and 108 as a product of prime factors.

Answer: _____ & _____ (2)

- (ii) Find the HCF of 72 and 108.

Answer: _____ (2)

- (iii) Find the LCM of 72 and 108

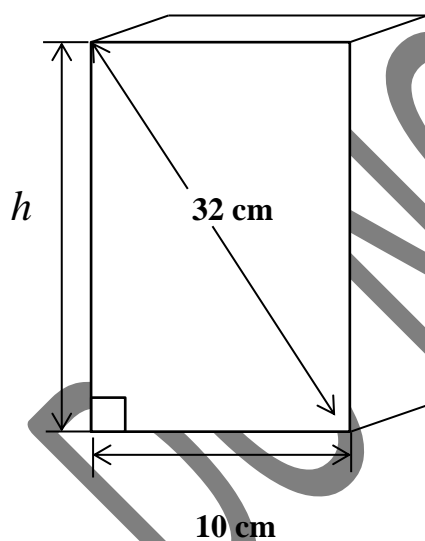
Answer: _____ (2)

2. Without using a calculator and showing all working out calculate:

$$3\frac{1}{2} \div 2\frac{1}{3}$$

Answer: _____ (3)

3. Find h , the height of the cereal box.



Answer: _____ cm (3)

4. A car travels a distance of 275 km in 2 hours and 30 minutes. Calculate the average speed.

Answer: _____ km/hr (2)

5. Calculate an estimate of the mean height of this group of students.

Height (H) (cm)	Frequency
$155 \leq H < 160$	3
$160 \leq H < 165$	6
$165 \leq H < 170$	17
$170 \leq H < 175$	22
$175 \leq H < 180$	9
$180 \leq H < 185$	2

Answer: _____ cm (4)

6. A block has a mass of 60 g and volume of 240 cm^3 .

Calculate the density of the block.

Answer: _____ g/cm^3 (2)

7. John is x years old.

Paul is 4 years older than John.

Alan is twice the age of Paul.

The three ages all add up to 52.

Form an **equation**.

Solve to find the age of all 3 boys.

Answer: John _____ Paul _____ Alan _____ (4)

8. Write 7.783 to one decimal place.

Answer: _____ (2)

9. The table shows the maths and science scores of seven Yr12 pupils.

(i) Draw a scatter graph (2)

(ii) What type of correlation is there?

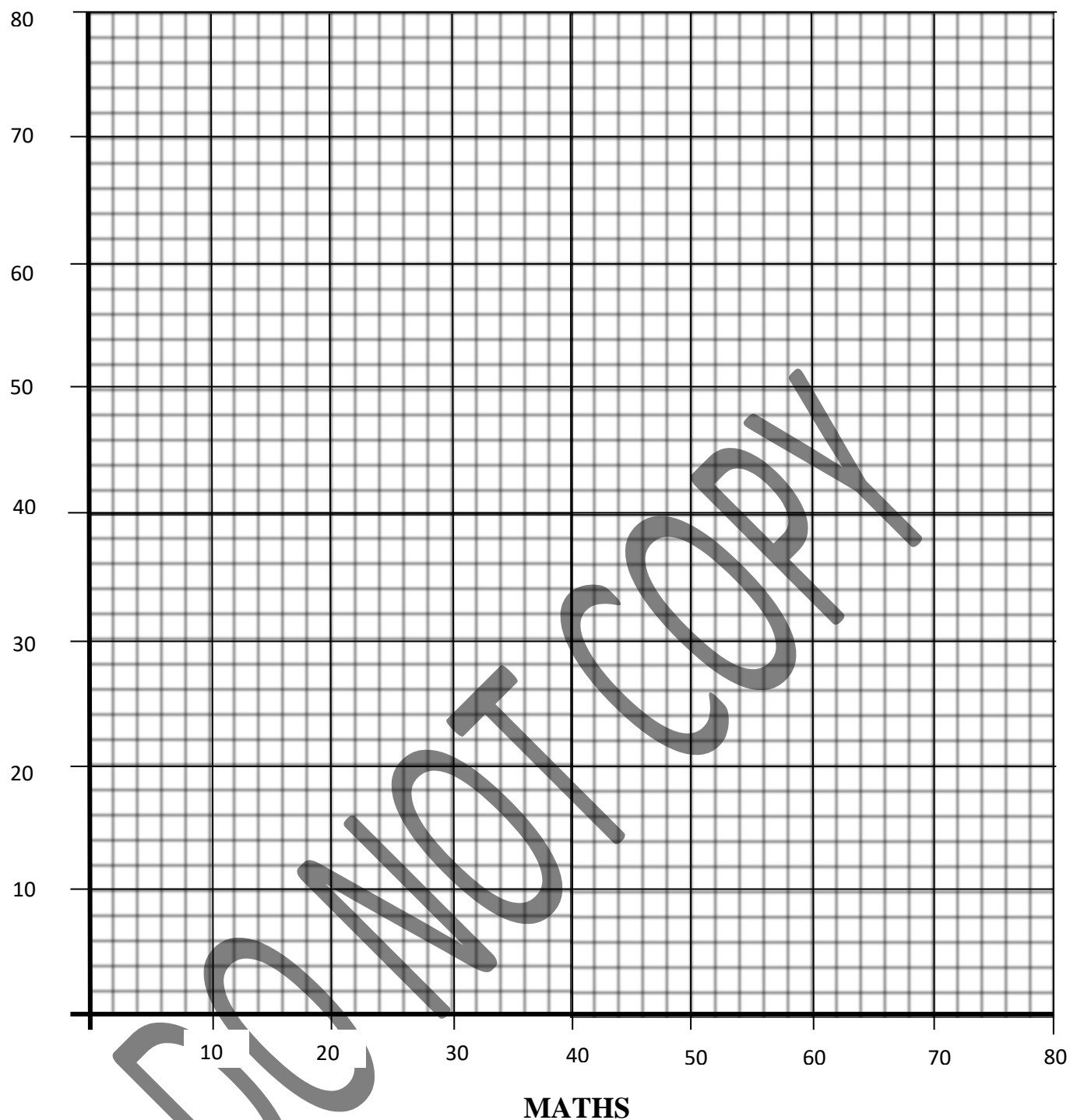
Answer: _____ (1)

(iii) Draw a line of best fit. (1)

(iv) Use your line of best fit to predict the science score if the maths score is 41.

Answer: _____ (1)

Maths	36	19	33	24	47	53	70
Science	40	30	31	39	55	49	67



10. Write 28.923 to 2 significant figures.

Answer: _____ (2)

11. Tom earns £27 500. The first £9 000 is tax free, 22% income tax is paid on the remainder.

How much has he left after tax has been paid?

Answer: £ _____ (2)

12. £2000 is invested for 3 years at 2.5% per annum compound interest.
Find the total amount in the account after 3 years.

Answer: £ _____ (2)

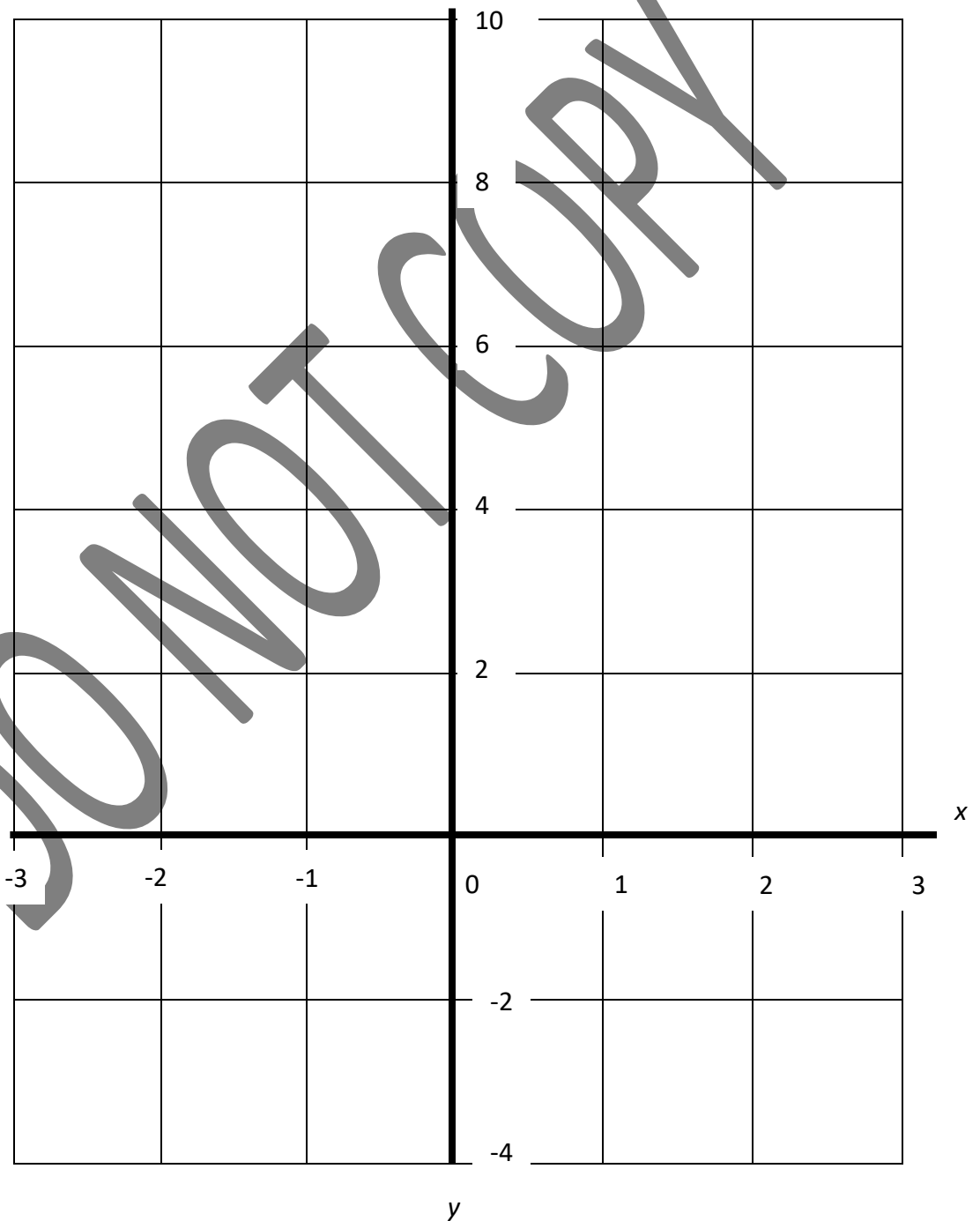
13. A new car costs £15 500. After 1 year it loses $\frac{1}{4}$ of its value.

What is the **value** of the car after 1 year?

Answer: £ _____ (2)

14. Complete the table and draw the graph $y = 2x + 4$.

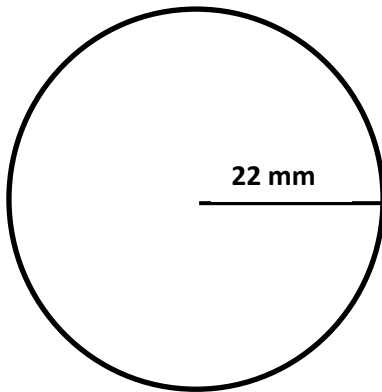
x	- 3	- 2	- 1	0	1	2	3
y							



(3)

- 15.** The radius of a coin is 22 mm.

Calculate the circumference of the coin.



Answer: _____ mm (2)

- 16.** John's mean mark for his eight tests is 6.5. His first seven marks are 7, 8, 4, 7, 5, 9 & 7. Calculate his final mark.

Answer: _____ (2)

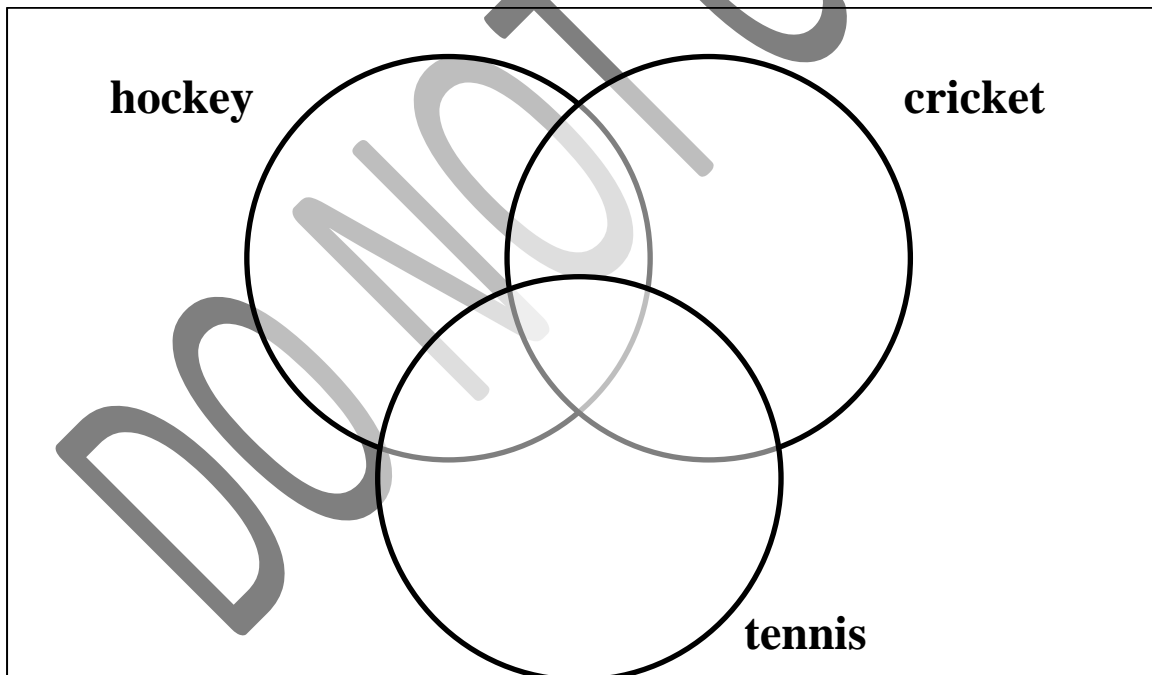
17. 44 pupils were asked which sport they played.

23 played hockey, 22 played cricket, 9 played hockey and cricket, 10 played hockey and tennis, 7 played cricket and tennis, 4 played all three and 2 played none of the three sports.

(i) Show the information in a Venn Diagram. **(3)**

(ii) How many played tennis?

Answer: _____ **(1)**



THIS IS THE END OF THE QUESTION PAPER