

Annual Examinations for Middle Schools 2022

YEAR 7

MATHEMATICS
Main Paper

TIME: 1h 30min

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non Calc	Global Mark
Mark																

DO NOT WRITE ABOVE THIS LINE

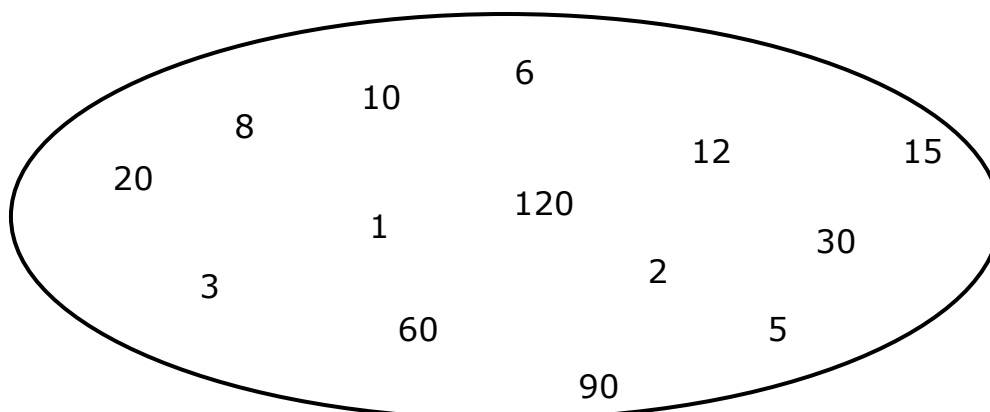
Name: _____

Class: _____

CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN. ANSWER ALL QUESTIONS.

1. a) The least common multiple of 20 and 25 is _____.

b) Circle all the factors of 15.



(4 marks)

2. Match.

25% •

• 75%

$\frac{3}{4}$ •

• $\frac{1}{4}$

$\frac{1}{2}$ •

• 0.65

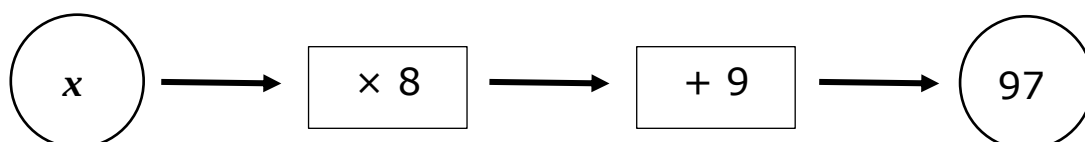
65% •

• 50%

(2 marks)

3. a) The diagram shows a number machine.

Work out the value of x .



Ans: $x =$ _____

b) Fill in:

i) 18, 21, _____, 27.

ii) 40, 20, 10, _____.

(4 marks)

4. A fair six-sided die is thrown. Write the probability of getting:



a) a prime number

Ans: _____

b) nine

Ans: _____

c) a square number

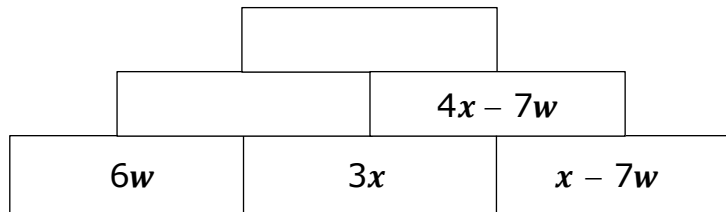
Ans: _____

d) a number greater than 1

Ans: _____

(4 marks)

5. a) In this tower, each box is the sum of the two boxes just below it. Fill in.



- b) Expand:

$$4(2 + m)$$

Ans: _____

- c) Solve:

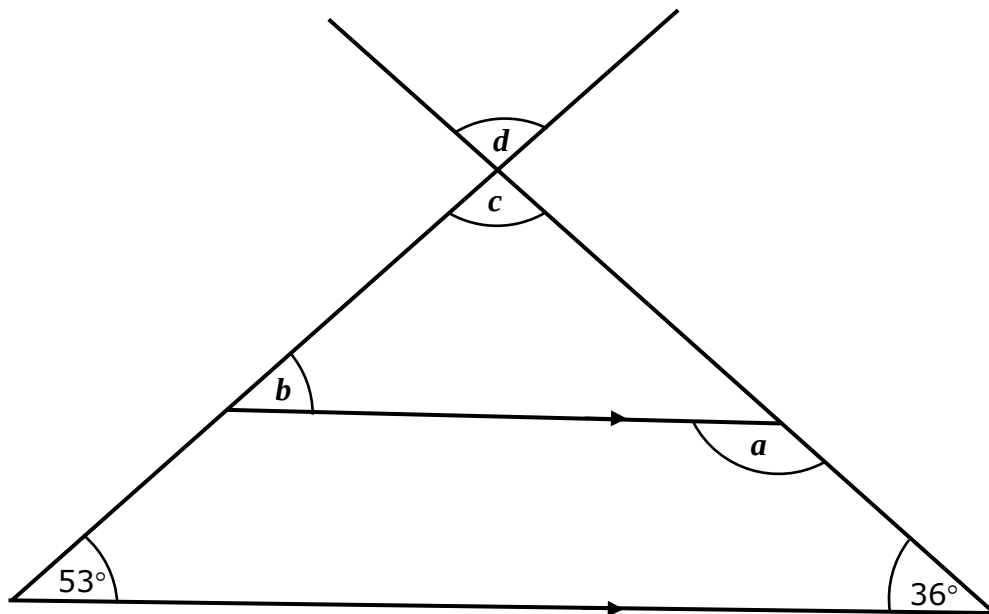
$$7(2x - 5) = 28$$

Ans: _____

(7 marks)

6. Find the size of the marked angles, giving a reason for each answer.

Diagram is not drawn to scale



$a =$ _____ $^\circ$ Reason: _____

$b =$ _____ $^\circ$ Reason: _____

$c =$ _____ $^\circ$ Reason: _____

$d =$ _____ $^\circ$ Reason: _____

(10 marks)

7. The heights of eight persons are:

1.73 m	1.42 m	1.66 m	1.56 m
1.66 m	1.58 m	1.37 m	1.66 m

a) Calculate:

i) the mean

Ans: _____

ii) the mode

Ans: _____

iii) the median

Ans: _____

b) Calculate the range, giving your answer in cm.

Ans: _____

(7 marks)

8. A shop is offering a 55% discount.

a) Write the discount as a fraction **in its lowest terms** and as a **decimal**.

$$\frac{\square}{\square} = \underline{\hspace{2cm}}$$

b) Work out the discount on a pair of trousers priced €60.

Ans: € _____

c) Calculate the discounted price of the pair of trousers.

Ans: € _____

(6 marks)

9. Ismael has a box of 240 coloured paperclips.

$\frac{1}{3}$ of the paperclips are red, $\frac{1}{4}$ are white, 40% are blue and the rest are black.

- a) Ismael used all the red and white paperclips. What fraction of the paperclips did he use?

Ans: _____

- b) How many paperclips are blue?

Ans: _____

- c) Work out the number of black paperclips.

Ans: _____

(7 marks)

10. Heather works every day from Monday to Friday. She begins at 7:30 a.m. She stops for her lunch break at noon. Then, she continues working from 12:45 p.m. to 4:15 p.m.

- a) How long is her lunch break?

Ans: _____ minutes

- b) How many hours does she work in one day?

Ans: _____ hours

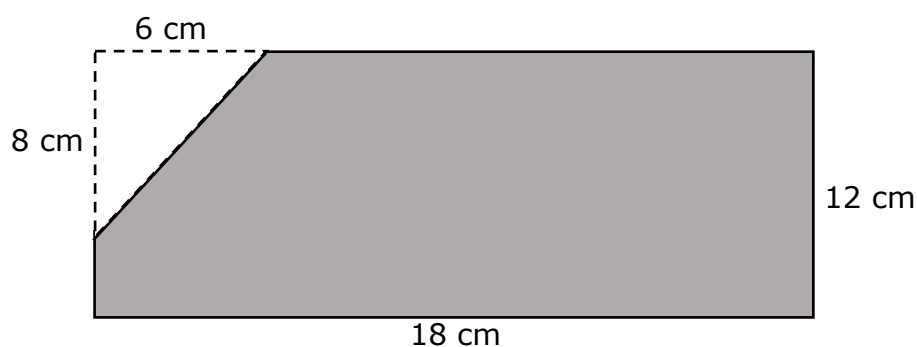
- c) Heather is paid €12 per hour. How much is her weekly wage?

Ans: € _____

(6 marks)

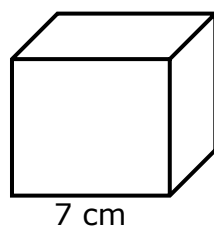
11. a) Calculate the area of the shaded part of the rectangle.

Diagrams are not drawn to scale



Ans: _____cm²

- b) Work out the volume of the cube.



Ans: _____cm³

(7 marks)

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12. A bottle of water costs x cent. A packet of juice costs three times as much as the bottle of water.

- a) Write an expression for the cost of a packet of juice.

Ans: _____

- b) Janica bought 5 bottles of water and 4 packets of juice.

- i) Write a formula for the total cost, C , in cent. Simplify your answer.

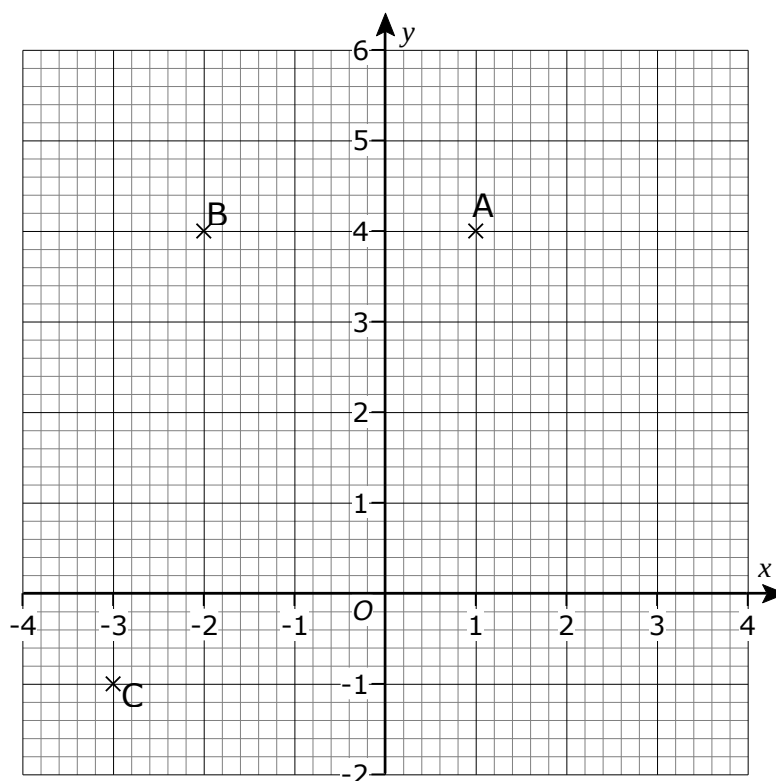
$C =$ _____

- ii) A bottle of water costs 35 cent. Use your answer in (i) to find the total cost in Euro.

Ans: € _____

(5 marks)

13.



a) Tick (✓) the correct statement.

- ☐ The coordinates of Point A are (4, 1) and the coordinates of C are (−1, −3).
- ☐ The coordinates of Point A are (−3, −1) and the coordinates of C are (1, 4).
- ☐ The coordinates of Point A are (1, 4) and the coordinates of C are (−3, −1).

b) Write the coordinates of Point B.

Ans: _____

c) Plot and label the coordinates of Point D (3, −1).

d) Join A to B, B to C, C to D and D to A.

Line AB and Line CD are two _____ lines.

e) Name shape ABCD.

Ans: _____

f) Point A and Point B are two points on the line $y = 4$. Write the coordinates of another point on the same line.

Ans: _____

(6 marks)

END OF MAIN PAPER