

Annual Examinations for Middle Schools 2024

YEAR 8

MATHEMATICS
Main Paper

TIME: 1h 40min

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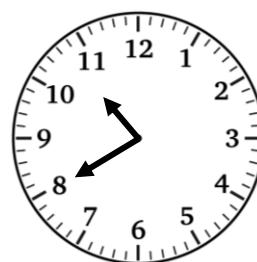
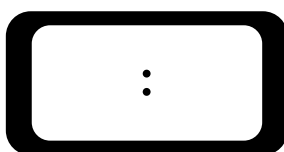
DO NOT WRITE ABOVE THIS LINE

Name: _____ Class: _____

Answer ALL questions.
Calculators are allowed. All necessary working must be shown.

1. Yanica has an appointment at the dentist in the morning, at the time shown on the clock.

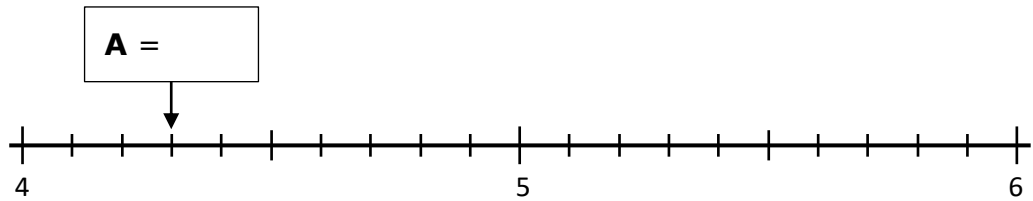
- (a) Fill in the time on this digital clock.



- (b) Write the time in words.

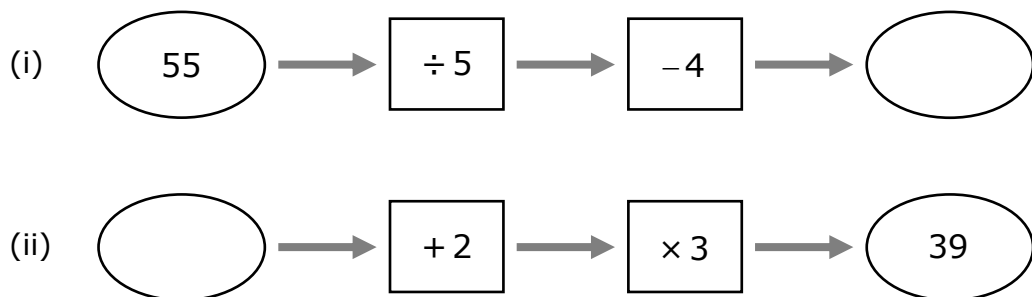
(3 marks)

2. (a) Answer the questions on the number line.



- (i) Write the value of **A** in the box above.
- (ii) Mark 5.7 with an arrow on the number line.
- (b) Write the number 3705 in words.

- (c) Underline the correct answer:
- (i) The digit 8 in the number 6891 is the
(thousands, tens, hundreds) digit.
- (ii) The digit 5 in the decimal number 7.254 is the
(thousandths, tenths, hundredths) digit.
- (d) Work out the number machines.



(10 marks)

3. (a) Fred bought candles of different shapes.
Use arrows to match the names of the 3D shape with the correct candle.

cone

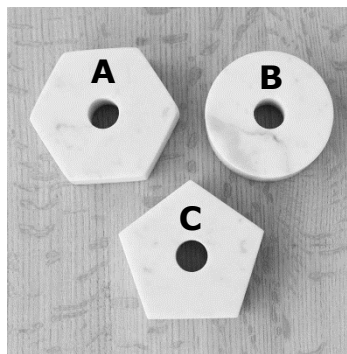
cuboid

cube

cylinder



- (b) Fred bought these three candle holders.



Underline the name of the shape of each candle holder:

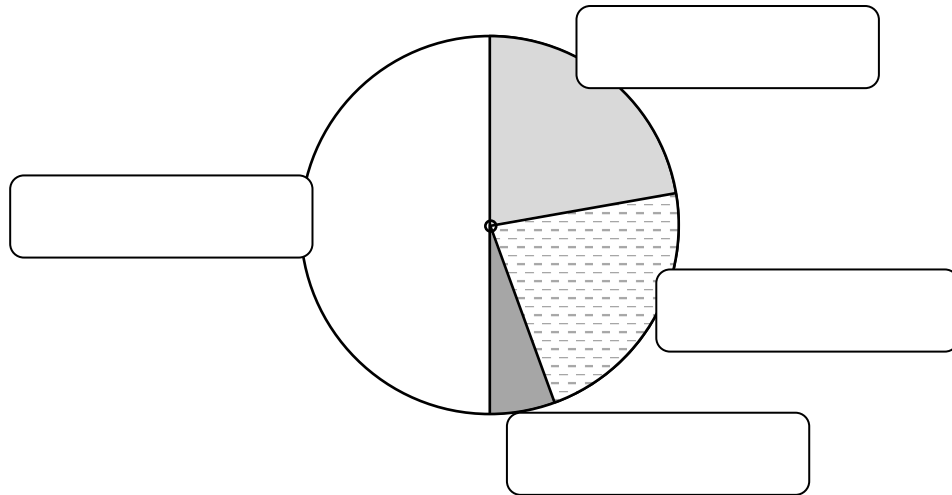
- (i) **A** has the shape of a (nonagon, pentagon, octagon, hexagon).
(ii) **B** has the shape of a (decagon, circle, octagon, hexagon).
(iii) **C** has the shape of a (pentagon, heptagon, hexagon, nonagon).

(7 marks)

4. (a) A teacher asks her students to participate in the school concert.

Use the information below to label the pie chart to show the students' preferences. Fill in the boxes with the words **in bold**.

- **Presenting** is the least popular.
- Half of the students prefer **Dancing**.
- **Acting** and **Singing** are equally popular.



- (b) The ages of eight waiters working at a restaurant on Friday evening are:

23, 32, 19, 23, 29, 19, 28, 19

Work out:

- (i) the median;

Ans: _____

- (ii) the mode;

Ans: _____

- (iii) the mean.

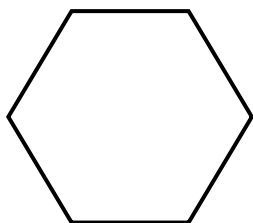
Ans: _____

(9 marks)

5. (a) What is the order of rotational symmetry of the following shapes?

(i) Regular shape

(ii) Recycle Logo



Order: _____

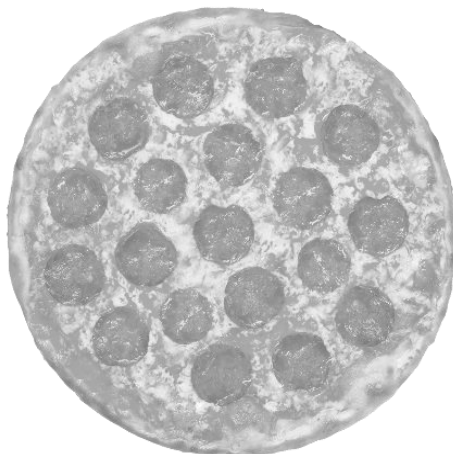


Order: _____

(b) Below is a picture of a pizza.

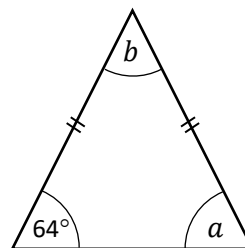
Mark and label:

- (i) the centre;
- (ii) the diameter;
- (iii) the circumference.



(5 marks)

6. (a) Look at the triangle.



- (i) Underline the correct answer:

The triangle is (equilateral, isosceles, scalene, right-angled).

- (ii) What is the size of angle a ?

°

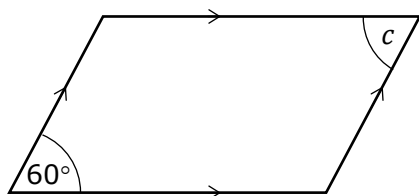
Ans: $a =$ _____

- (iii) Work out the size of angle b .

°

Ans: $b =$ _____

- (b) Look at the quadrilateral.



- (i) Underline the correct answer:

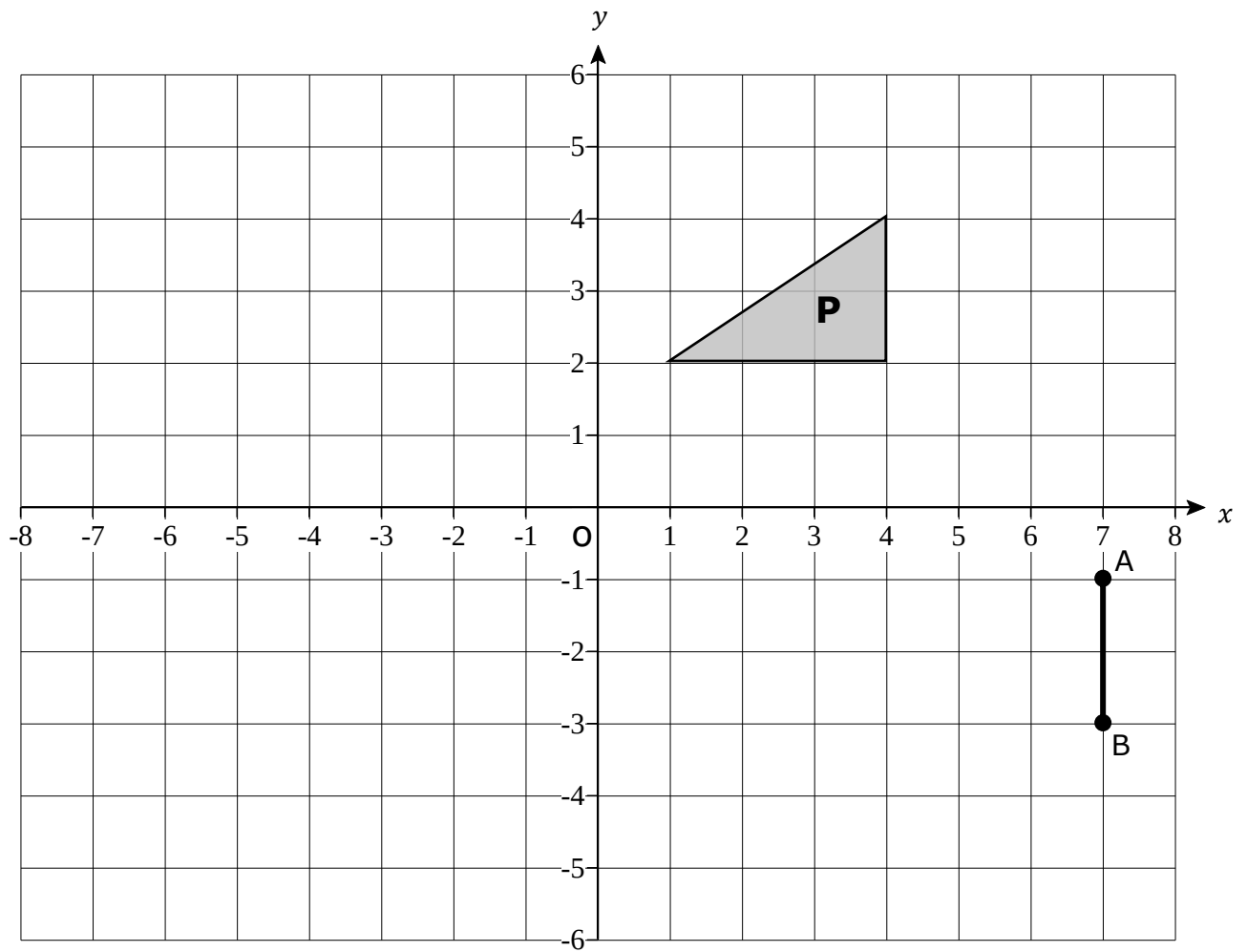
The quadrilateral is a (rectangle, parallelogram, trapezium, square).

- (ii) Find the size of angle c .

Ans: $c =$ _____

(6 marks)

7. Look at the grid below.



(a) Write the coordinates of point B.

B(____, ____)

(b) Plot point C(4, -3). Join C to A and B to form a triangle.

(c) Translate triangle **P**, 5 left and 7 down. Label your triangle **Q**.

(d) Continue the statement:

Triangle **P** is translated to triangle ABC by _____ and _____.

(7 marks)

8. Three types of tickets are on sale for a concert:

Gold tickets cost g euro

Silver tickets cost s euro

Bronze tickets cost b euro

Jake buys 2 gold tickets, 3 silver tickets and 4 bronze tickets.

(a) Write down an expression for the total cost of the tickets Jake buys.

Ans: _____

(b) What is the total cost in euro when $g = 10$, $s = 7$ and $b = 4$?

Ans: € _____

(5 marks)

9. A fruit juice company buys 1375 kg of peaches to produce juice.

20% of the peaches are bad.

(a) How many kilograms of peaches are bad?

Ans: _____ kg

(b) How many kilograms of peaches are good?

Ans: _____ kg

(4 marks)

10. (a) Write the next numbers in this pattern:

4, 9, 16, _____, _____, _____.

(b) The rule of a sequence is:

The first term is 37. The rule is **subtract 6**.

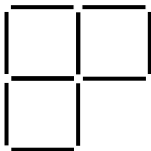
Fill in:

37, _____, _____, _____.

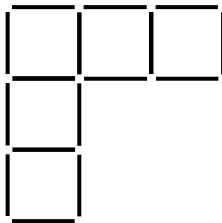
(c) The diagrams show the first three patterns of a sequence, made up of sticks:



Pattern 1



Pattern 2



Pattern 3

(i) Draw Pattern 4.

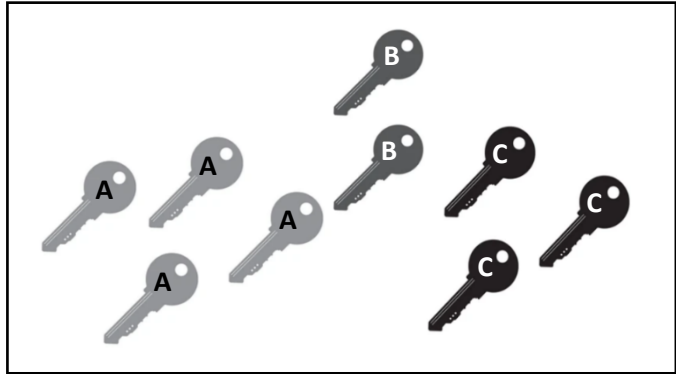
(ii) Fill in:

Pattern	1	2	3	4	5	6
Number of squares	1	3	5			
Number of matches	4	10	16			

(9 marks)

11. In a corridor there are four rooms: A, B, C and D.
A tray contains nine keys that open rooms A, B and C.

- 4 keys open Room A
- 2 keys open Room B
- 3 keys open Room C



A key is picked at random from the tray.

- (a) What is the probability of picking a key that opens Room A?

Ans: _____

- (b) What is the probability of picking a key that does NOT open Room C?

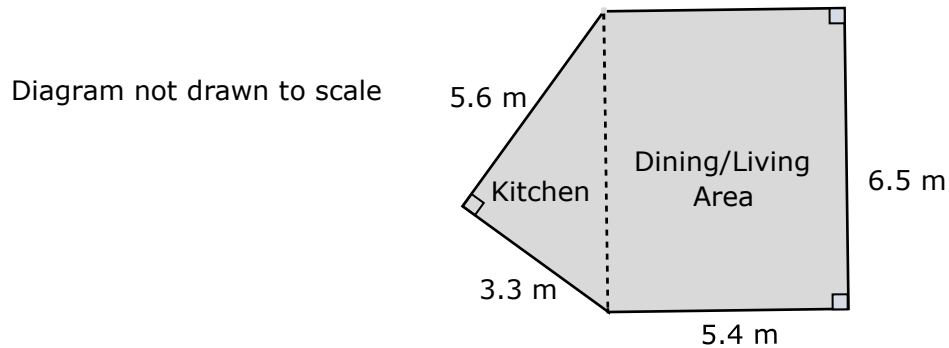
Ans: _____

- (c) What is the probability of picking a key that opens Room D?

Ans: _____

(3 marks)

12. This is the plan of a room. The triangular space is the kitchen, and the rectangular space is the dining and living area.



- (a) Work out the area of the kitchen.

Ans: _____ m^2

- (b) Calculate the area of the whole room.

Ans: _____ m^2

(5 marks)

13. A supermarket sells jars of tomatoes and packs of tomato jars as shown below:



- (a) For the 3-pack offer, calculate the cost of one jar.

Ans: €_____

- (b) Which is the better value for money, the 3-Pack offer or the 4-Pack offer?
Show your working.

Ans: _____ Offer

- (c) Krista buys 6 jars of tomatoes.
How much do they cost her altogether if she takes the 4-pack offer?

Ans: €_____

(7 marks)

End of Main Paper