

Annual Examinations for Secondary Schools 2023

YEAR 11

**MATHEMATICS
Main Paper**

TIME: 45 minutes

1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total Main	Non- Calc	TOTAL MARK

DO NOT WRITE ABOVE THIS LINE

Name: _____ Class: _____

- Answer ALL questions.
- This paper carries a total of 75 marks.
- Calculators are allowed but all necessary working must be shown.

1. Fill in:

(a) $50 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

(b) $2.7 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

(c) $26 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

(3 marks)

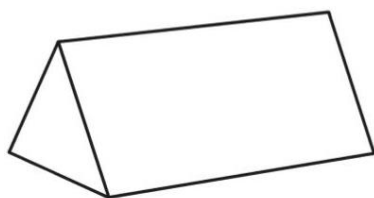
2. Change:

(a) $150 \text{ seconds to minutes} = \underline{\hspace{2cm}} \text{ minutes}$

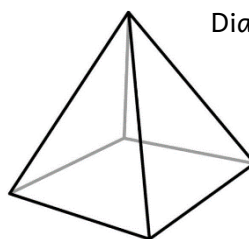
(b) $1\frac{1}{4} \text{ hours to minutes} = \underline{\hspace{2cm}} \text{ minutes}$

(4 marks)

3.



Shape A



Shape B

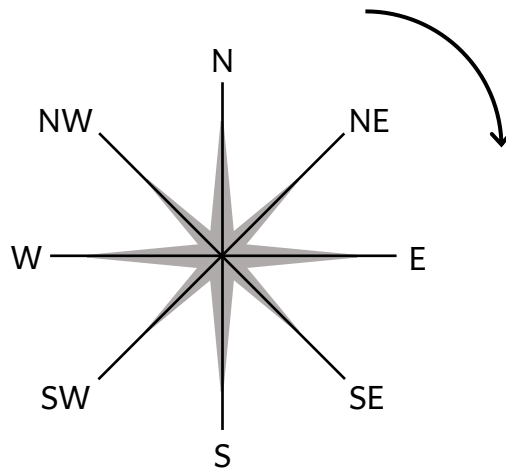
Diagrams not drawn to scale

(a) Shape A has ____ faces, ____ edges, ____ vertices.

(b) Shape B has ____ faces, ____ edges, ____ vertices.

(6 marks)

4. (a)



Using the compass, turn clockwise to find the angle between:

(i) North and East

Ans: _____°

(ii) East and West

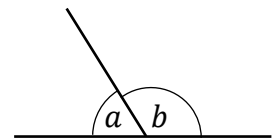
Ans: _____°

(iii) West and North East

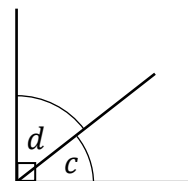
Ans: _____°

(b) Fill in:

(i) Angles a and b together make _____°.



(ii) Angles c and d together make _____°.



(6 marks)

5. Work out:

(a) $\frac{3}{10} + \frac{1}{5} + \frac{7}{20}$

Ans: _____

(b) $\frac{3}{4}$ of 64 kg

Ans: _____ kg

(c) 50% of €180

Ans: €_____

(7 marks)

6. (a) Michelle buys 3 books and 2 magazines.

Each book costs €14.95 and each magazine costs €6.30.

How much did Michelle spend?

Ans: €_____

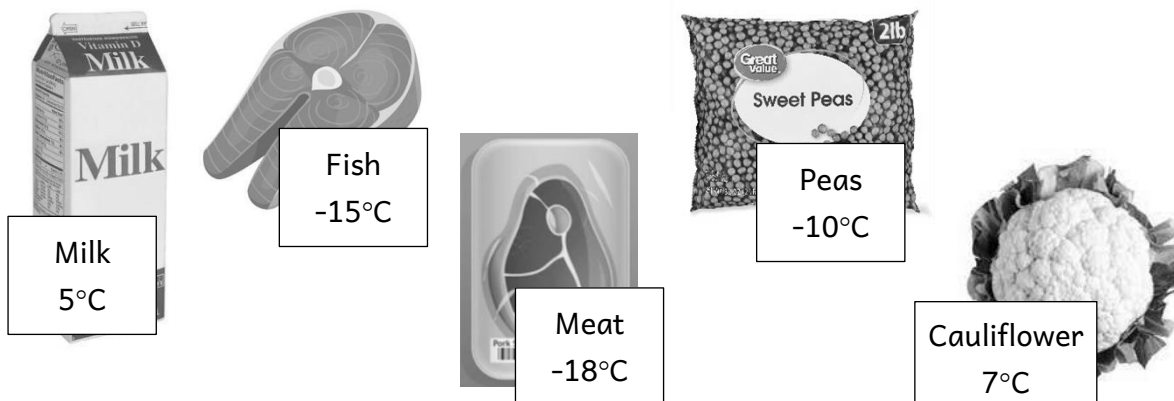
(b) A string is 3.24 metres long. It is cut into 6 equal pieces.

How long is each piece of string?

Ans: _____ m

(5 marks)

7. Bertu measured the temperature of these items.



Write these temperatures in order, starting from the smallest.

_____, _____, _____, _____, _____

(2 marks)

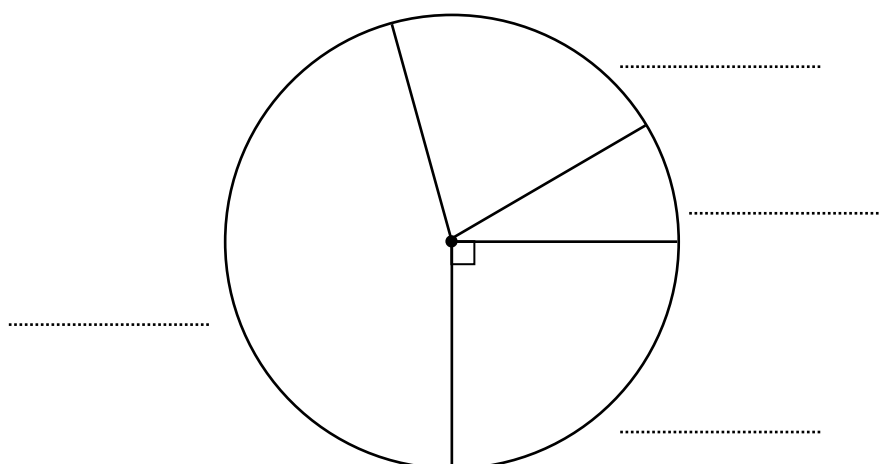
8. The pie chart below shows the favourite sports of a group of students.

Use the hints below to label the pie chart with the following sports:

Football Tennis Sailing Basketball

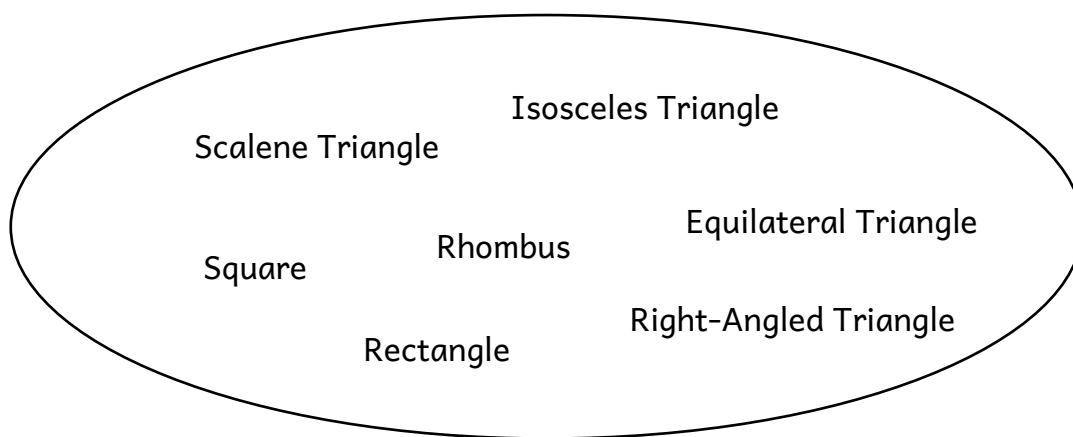
Hints:

- Football is the most favourite sport.
- Sailing is the least favourite sport.
- A quarter of the students like tennis.



(4 marks)

9.



Choose from the shapes above to fill in the following.
The names of the shapes may be used more than once.

(a) Three shapes that have all sides equal

_____, _____, _____

(b) Three shapes that always have at least one right angle

_____, _____, _____

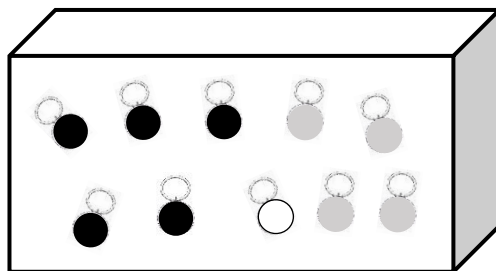
(c) One shape that has only two equal sides

(d) One shape that has only one pair of equal angles

(e) One shape that has no equal sides

(9 marks)

10. (a) Sam places 10 keychains in a box.
Five are black, four are grey and one is white.



Underline the correct answer:

- (i) The probability that a keychain picked at random is black is:
impossible unlikely evens certain
- (ii) The probability that a keychain picked at random is white is:
likely impossible unlikely very unlikely
- (iii) The probability that a keychain picked at random is red is:
likely impossible unlikely evens

- (b) Katrina places 11 sticks in a bag. The sticks are different in colour only.
Three sticks are blue, two are pink, four are yellow and the rest are green.
Katrina picks a stick at random.

- (i) What is the probability that Katrina picks a yellow stick?
Give your answer as a fraction.

Ans: _____

- (ii) What is the probability that Katrina picks a green stick?
Give your answer as a fraction.

Ans: _____

(6 marks)

11. (a) Calculate the perimeter of this room.

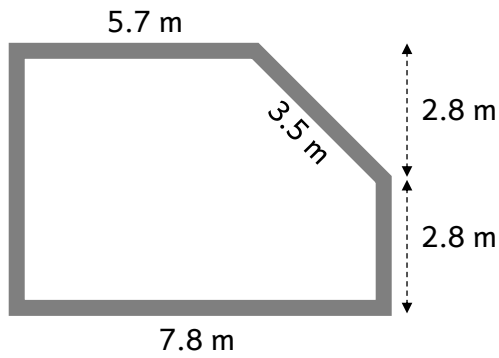


Diagram not drawn to scale

Ans: _____ m

- (b) What is the perimeter of this picture frame?

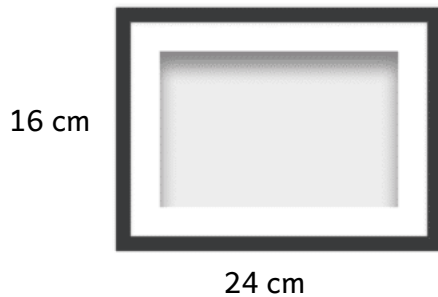


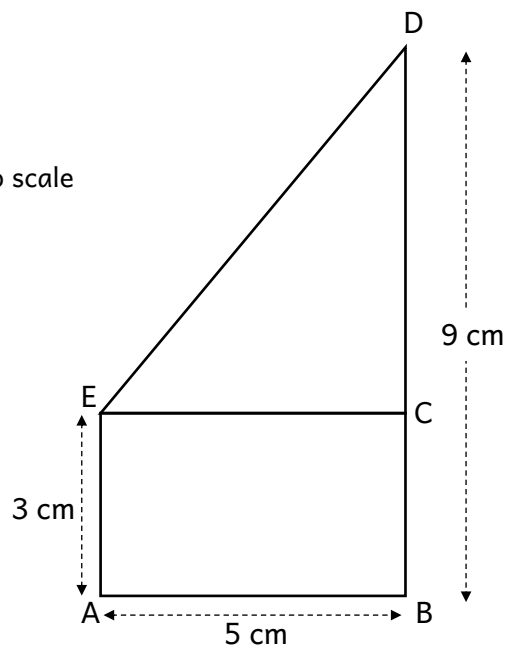
Diagram not drawn to scale

Ans: _____ cm

(4 marks)

12. This shape is made up of a rectangle and a right-angled triangle.

Diagram not drawn to scale



Calculate:

- (a) the area of rectangle ABCE

Ans: _____ cm^2

- (b) the area of triangle CDE

Ans: _____ cm^2

- (c) the area of the shape ABDE

Ans: _____ cm^2

(6 marks)

13. The shape is made up of cuboid A and cube B.

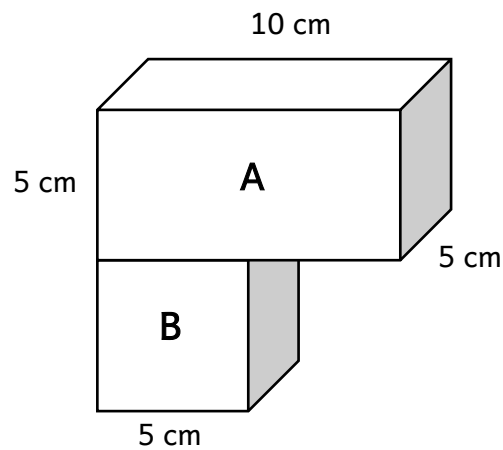


Diagram not drawn to scale

- (a) Work out the volume of cuboid A.

Ans: _____cm³

- (b) Calculate the volume of cube B.

Ans: _____cm³

- (c) What is the volume of the whole shape?

Ans: _____cm³

(6 marks)

14. During a sale all prices are reduced by 20%.
A jacket costs €96.40.



- (a) Work out 20% of €96.40.

Ans: €_____

- (b) How much does the jacket cost during the sale?

Ans: €_____

- (c) Michael buys this jacket. He gives the shopkeeper four €20 notes.
What change does he get?

Ans: €_____

(7 marks)

END OF EXAMINATION

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