DEPARTMENT FOR CURRICULUM,
LIFELONG LEARNING AND EMPLOYABILITY
Directorate for Learning and Assessment Programmes
Educational Assessment Unit

Track 1

**Annual Examinations for Secondary School 2022**

**YEAR 9** **MATHEMATICS** **TIME: 1h 30min**

**Main Paper**

| Question | 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: _____

Calculators are allowed but all necessary working must be shown.
Answer all questions.

1. Fill in using these units:

| **litres** | **kilograms** | **millilitres** | **kilometres** |
|---|---|---|---|

(a) The distance between Malta and Gozo is measured in _____.

(b) The amount of liquid in a medicine bottle is measured in _____.

(c) The mass of a baby is measured in _____.

(3 marks)

2. Fill in:

(a) An octagon has _____ sides.

(b) A _____ has five sides.

Ans:_____

(2 marks)

3. Julian buys the following ítems:

€489

€52

€5·30

(a) Round the following prices:

(i) €52 to the nearest **ten** is € _____

(ii) €489 to the nearest **hundred** is € _____

(iii) €5.30 to the nearest **whole** is € _____

(b) **Estimate** the total cost of the three ítems. Ans: € _____

(c) Calculate the **actual** total cost of the three ítems.

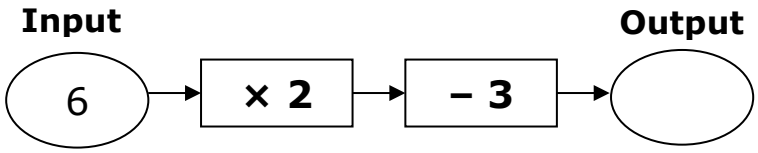
Ans: € _____

(d) How much change does Julian receive from €600?

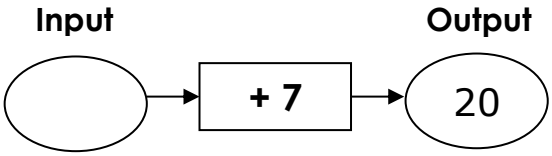
Ans: € _____

(9 marks)

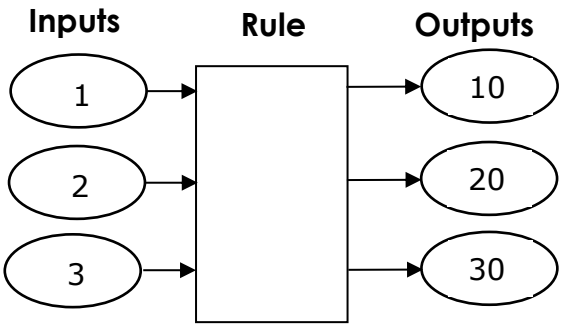
4. (a) Use the number machine to find the **output**.




(b) Use the number machine to find the **input**.




(c) Write the rule of the following number machine in the box.




(3 marks)

5. A dress costs €60. During a sale, prices are reduced by 25%.
Calculate the new price of the dress.

Ans:€_____

(3 marks)

6. (a) Write down a **positive** or a **negative** number to represent each of the following statements:

(i) A **profit** of €300. _____

(ii) A **loss** of 10 points _____

(iii) 36 m **below** sea level. _____

(b) The temperature at sunset is 12°C.
During the night it **falls** by 16°C.

What is the temperature at night?

Ans: _____ °C

(5 marks)

7. Solve the following equations:

(a) $3x + 12 = 18$

Ans: $x =$ _____

(b) $2x - 5 = 3x$

Ans: $x =$_____

(4 marks)

8. The number of students attending a class over 10 days was:

**20, 21, 22, 22, 23, 23, 24, 24, 24, 24**

(a) Work out the mean.

Ans:_____

(b) What is the mode?

Ans:_____

(c) Work out the median.

Ans:_____

(d) Work out the range.

Ans:_____

(7 marks)

9. Peter is a cleaner. The table shows the time it takes Peter to clean each room.

| **Room** | **Time** |
|---|---|
| Kitchen | 1 hour 30 min |
| Sitting room | $1\frac{1}{2}$ hour |
| Bedroom | 45 min |
| Living room | 1 hour |
| Bathroom | $\frac{3}{4}$ hours |

(a) Peter wants to clean all five rooms on Monday.

(i) How long does Peter take to clean **all** five rooms?

Ans:_____

(ii) Peter starts working at 9:00 a.m. on Monday.
He take a 60-minute break.
Will Peter clean all the rooms by 4:00 p.m.?
Show all your working.

Ans:_____

(b) Peter is paid €5.80 for every hour he works.
How much is he paid on Monday?

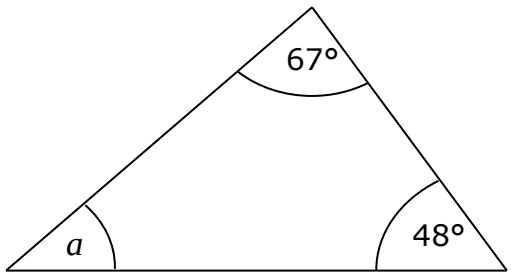
Ans: €_____

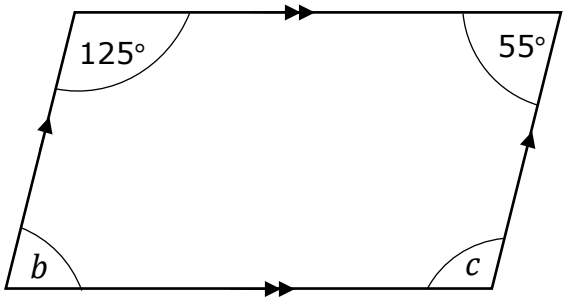
(7 marks)

10. (a) Using ruler and compasses only, construct an angle of 60° at point A.

**A**

(b) Work out the value of the angles marked $a$, $b$ and $c$.




*Diagrams are not drawn to scale*

$a =$ _____ °

$b =$ _____ °

$c =$ _____ °

(8 marks)

11. (a) Some students were asked about their favourite hobby.
Complete this frequency table.

| Hobby | Tally | Frequency |
|---|---|---|
| Drama | 𝍸 | |
| Reading | 𝍸 \| | |
| Music | 𝍸 𝍸 𝍸 \|\| | 17 |
| Watching TV | 𝍸 𝍸 \|\|\|\| | |
| | **Total** | |

(b) Which is the **most** popular hobby?

Ans:_____

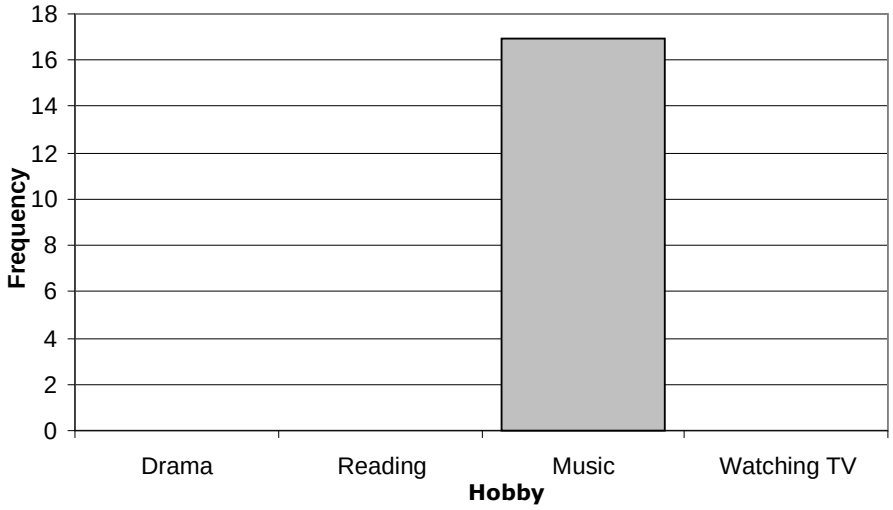
(c) How many **more** students like watching TV than reading?

Ans:_____ students

(d) What is the probability of choosing a student who likes drama?

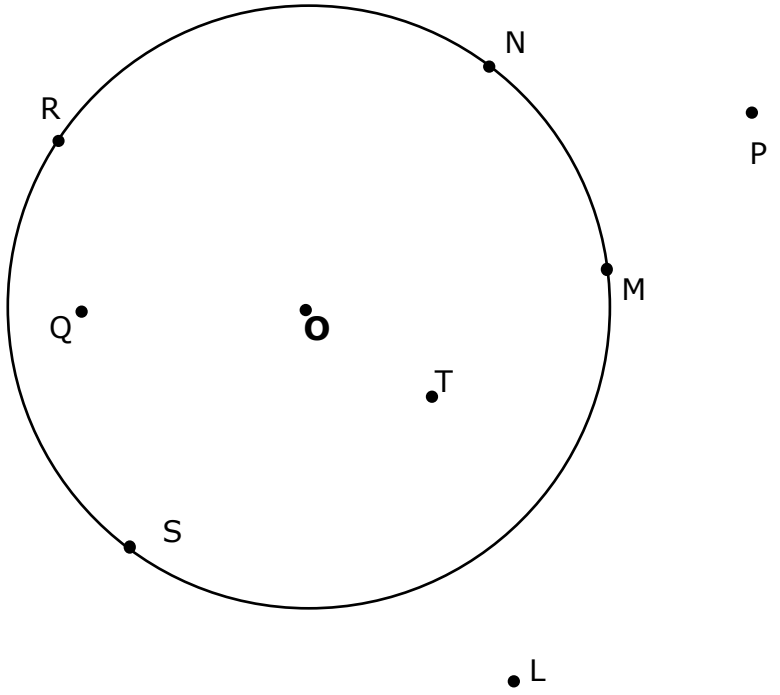
Ans: _____

(e) Complete the following bar chart.




(8 marks)

12. This is a circle, centre O.




(a) Which points are **on the circumference** of the circle?

Ans:_____

(b) (i) Underline the correct answer:

(RM, RS, SN) is a diameter of the circle.

(ii) Measure this diameter.

Ans:_____ cm

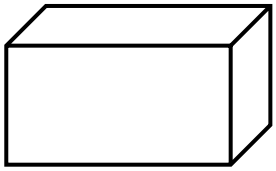
(c) Using the formula $Circumference \approx 3 \times diameter$,
work out an approximate value for circumference of this circle.

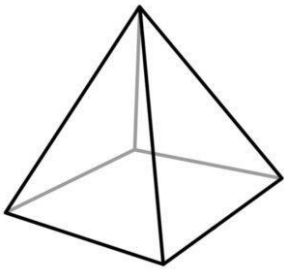
Ans:_____cm

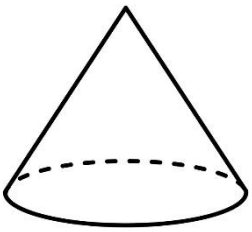
(4 marks)

13. (a) Write down the names of these three solid shapes. Choose from the following:

| sphere | cone | cylinder | cuboid | pyramid |
|---|---|---|---|---|







_____ _____ _____

(b) (i) Construct a circle centre O, radius 5 cm.

(ii) In the circle, construct, using ruler and compasses only, a hexagon of side 5 cm.

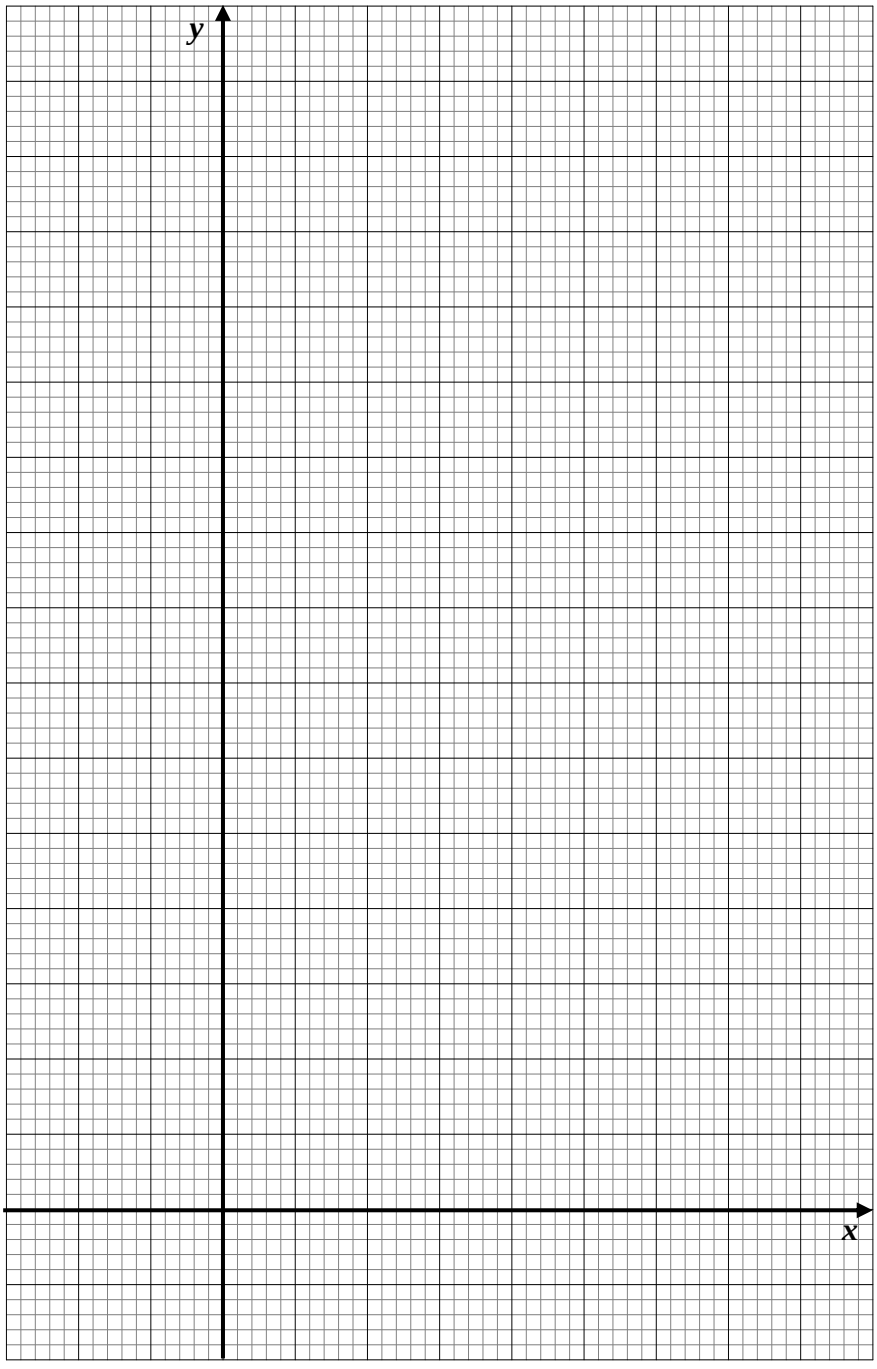
+
O

(6 marks)

14. (a) Complete the table for the line $y = 2x + 1$.

| $x$ | **-1** | **0** | **1** | **2** | **3** |
|---|---|---|---|---|---|
| $2x$ | –2 | | 2 | | 6 |
| +1 | +1 | +1 | +1 | | |
| $y$ | **-1** | **1** | | **5** | **7** |

(b) On the graph paper provided, using 2 cm as 1 unit on both axis, draw the graph of the line $y = 2x + 1$.




(6 marks)

**END OF MAIN PAPER**

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