



**Examination for the Enlistment of Soldiers in the
Armed Forces of Malta
November - 2022**

Subject: Mathematics
Time: 09.00 – 10.00 (One hour)

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Instructions to candidates:

- This examination paper consists of **THREE** sections: A, B and C. Answer all **50** questions in these sections.
- Each question contains four possible answers, but only **ONE** is correct.
- Enter your answers on the Answer Sheet provided. Mark **ONLY** the correct answer by using a pencil.

e.g. If answer C is selected, fill in the appropriate circle as shown below.

50.	<input type="radio"/> A	<input type="radio"/> B	<input checked="" type="radio"/> C	<input type="radio"/> D
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- Each question carries two (2) marks.
- Diagrams are **NOT** drawn to scale.
- The use of calculators is allowed.

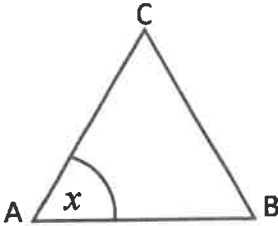
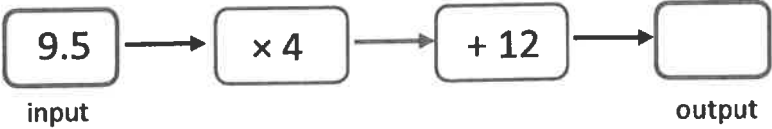
Section A

**This Section contains twenty (20) questions (from 1 to 20).
Answer ALL questions.**

1	Subtract 11.6 from 34.5	A) 2.9	B) 2.97	C) 22.9	D) 46.1
2	A packet of eight muffins costs €6.88. How much does one muffin cost?	A) €1.88	B) €1.08	C) €0.88	D) €0.86
3	0.12 m is the same as:	A) 12 mm	B) 12 cm	C) 1.2 cm	D) 120 cm
4	Add 0.2 km and 550 m. Give your answer in m.	A) 7.5 m	B) 75 m	C) 750 m	D) 7500 m
5	Work out: $\frac{1}{9}$ of 405	A) 45	B) 54	C) 49	D) 57
6	How many sides does a pentagon have?	A) 4	B) 5	C) 6	D) 8
7	Which statement is false? A) $2.367 > 2.376$ B) $40\% = 0.4$ C) $\sqrt{25} = 5$ D) $\frac{1}{4} = 0.25$				
8	Work out 35% of €400.	A) €365	B) €235	C) €170	D) €140

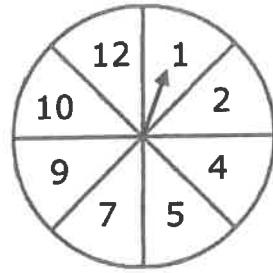
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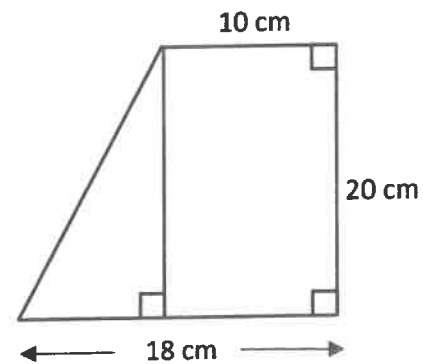
9	Work out: $9 + 5 \times 6 - 3$	A) 33	B) 36	C) 42	D) 81
10	Simplify the ratio $36 : 54$	A) 1 : 3	B) 3 : 2	C) 3 : 4	D) 2 : 3
11	A triangle with different side lengths is called:	A) equilateral	B) isosceles	C) scalene	D) right-angled
12	Simplify: $12a + 9 - 5a - 6 + a$	A) $8a - 3$	B) $18a + 15$	C) $8a + 3$	D) $18a + 3$
13	Calculate the range of the following set of numbers. $20, 18, 15, 12, 17, 20$	A) 8	B) 17	C) 17.5	D) 20
14	Which of the following is equivalent to $\frac{2}{5}$?	A) 2%	B) 10%	C) 20%	D) 40%
15	ABC is an equilateral triangle. What is the size of angle x ?				
16	Calculate the output of the following number machine.				
		A) 50	B) 28.5	C) 86	D) 162

- 17 Karl spins the wheel once.
What is the probability that the arrow points at a square number?

- A) $\frac{2}{8}$
B) $\frac{3}{8}$
C) $\frac{3}{12}$
D) $\frac{2}{12}$



- 18 Work out the total area of this shape.



- A) 360 cm^2 B) 320 cm^2 C) 240 cm^2 D) 280 cm^2

- 19 Find the value of $12p - 5r$ when $p = 9$ and $r = 6$.

- A) 138 B) 88 C) 78 D) 27

- 20 Work out the total volume of six identical cubes like the one below.



- A) 162 cm^3 B) 81 cm^3 C) 27 cm^3 D) 9 cm^3

20 x 2 marks = **40 marks**

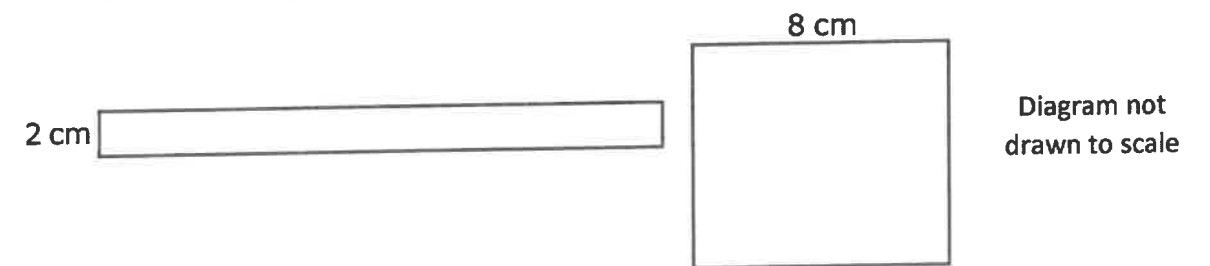
- 45 A man earns €1652 per month. He is given a 5% raise. How much will he earn in a year?

- A) €20 815.20 B) €19 884.00 C) €8260.00 D) €19 824

- 46 It takes 20 workers, a total of 8 days to harvest a plantation. How long would it take 16 workers to harvest the same plantation?

- A) 10 days B) 40 days C) 5 days D) 8 days

- 47 The area of the rectangle is half the area of the square. The rectangle is 2 cm wide and the square is of side 8 cm. Work out the length of the rectangle.



- A) 20 cm B) 8 cm C) 16 cm D) 4 cm

- 48 Solve the equation: $5x - 12 = 2(x - 1)$

- A) $x = 5$ B) $x = 3$ C) $x = 3\frac{1}{3}$ D) $x = 1$

- 49 The floor of a room measuring 6 m by 4 m is to be covered with square carpets. What is the length of the largest square carpet that can be used without cutting?

- A) 2 m B) 0.5 m C) 3 m D) 1 m

- 50 Two fair dice are tossed. What is the probability that you get different numbers on the dice?

- A) $\frac{1}{12}$ B) $\frac{5}{6}$ C) $\frac{1}{2}$ D) $\frac{1}{6}$

TOTAL: 100 MARKS

END OF PAPER

10 x 2 marks = **20 marks**

Section C

This Section contains ten (10) questions (from 41 to 50). Answer ALL questions.

- 41 The quadrilateral below has one line of symmetry.
Calculate the size of the angle marked x .

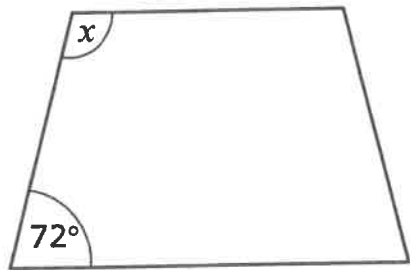


Diagram not drawn to scale

- A) 216° B) 108° C) 100° D) 288°

- 42 Liam had €50. He spent half of it on paint and one quarter of the rest on cement.
How much money has he got left?

- A) €18.75 B) €12.50 C) €25 D) €15

- 43 The total of 17 numbers is 136. What is the mean of these 17 numbers?

- A) 2312 B) 153 C) 119 D) 8

- 44 This solid shape is made up of six identical cubes. The total volume is 162 cm^3 .
Calculate the total area of the four shaded faces.

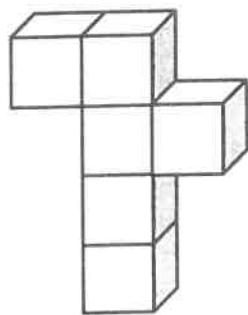


Diagram not drawn to scale

- A) 27 cm^2 B) 108 cm^2 C) 12 cm^2 D) 36 cm^2

Section B

This section contains twenty (20) questions (from 21 to 40).
Answer ALL questions.

- 21 Work out the value of:

$$\frac{64 \times 3}{4.2 + 3.8}$$

- A) 48 B) 27.4 C) 24 D) 12

- 22 Work out the value of: $(4.76 + 5.24)^3$

- A) 251.7 B) 729 C) 792 D) 1000

- 23 Find the median of:

12, 15, 18, 22, 24, 28, 28, 28

- A) 16 B) 23 C) 28 D) 21.9

- 24 Express the ratio 3.5 kg : 560 g in its simplest form.

- A) 25 : 4 B) 5 : 8 C) 4 : 25 D) 8 : 5

- 25 The price of a bicycle increased by 12% from €150.
What is the new price of the bicycle?

- A) €132 B) €18 C) €168 D) €162

- 26 Solve the equation: $2x - 3 = 15$

- A) 18 B) 9 C) 6 D) 12

- 27 Write the next two terms of the sequence:

5, $6\frac{1}{4}$, $7\frac{1}{2}$, $8\frac{3}{4}$, _____, _____

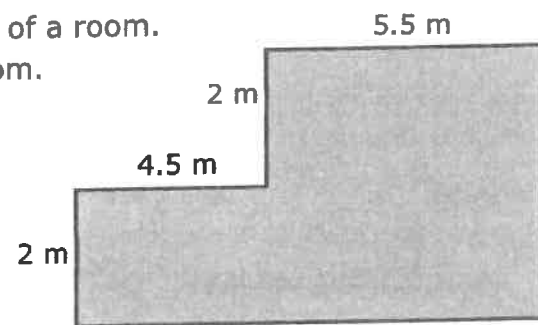
- A) $9\frac{1}{4}$, $10\frac{1}{2}$ B) $9\frac{1}{2}$, $10\frac{1}{4}$ C) 10, $11\frac{1}{4}$ D) 9, $10\frac{1}{4}$

- 28 Change 0.364 to a fraction. Give your answer in its simplest form.

- A) $\frac{91}{250}$ B) $\frac{180}{500}$ C) $\frac{9}{25}$ D) $\frac{72}{200}$

- 29 On a particular day the temperature rises from -5°C to 8°C .
By how many degrees Celsius did the temperature rise?
- A) 14°C B) -3°C C) 3°C D) 13°C

- 30 The diagram shows the floor plan of a room.
Calculate the perimeter of the room.



- A) 14 m B) 28 m C) 31 m D) 20 m
- 31 Use your calculator to find the value of $\sqrt{320} + 9.21^2$.
Give your answer correct to 2 decimal places.
- A) 102.71 B) 329.21 C) 102.70 D) 102.60

- 32 The scale of a map is given by 1 cm is to 200 m.
Which one of the following ratios is equivalent to the given map scale?

- A) 2 cm : 400 m B) 0.5 cm : 400 m C) 5 cm : 100 m D) 3 cm : 450 m

- 33 Mike uses $\frac{7}{10}$ of a bag of cement for a job and $\frac{4}{25}$ of the bag for another job.
What fraction of the bag does he have left?

- A) $\frac{24}{35}$ B) $\frac{43}{50}$ C) $\frac{14}{50}$ D) $\frac{7}{50}$

- 34 A wine barrel holds 120 litres. Bottles holding 750 ml are filled with wine
from this barrel. How many wine bottles can be completely filled from the
barrel?

- A) 16 B) 160 C) 6 D) 0.16

- 35 Francesca's work day starts at 8:30 am and finishes at 2:45 pm. During her
workday she takes a 20 minute break and a $\frac{3}{4}$ hour break. For how many
hours and minutes does she work?

- A) 5 h 50 min B) 7 h 20 min C) 5 h 10 min D) 5 h 30 min

- 36 The probability that Jean is selected for the high jump competition is $\frac{2}{5}$.
What is the probability that he is not selected?
- A) 3 B) 0.6 C) 0.3 D) 0.25

- 37 Which one of the following statements is true for a **square**?

- A) No lines of symmetry and rotational symmetry of order 2.
B) Two lines of symmetry and rotational symmetry of order 4.
C) Four lines of symmetry and rotational symmetry of order 4.
D) Four lines of symmetry and rotational symmetry of order 2.

- 38 The total cost C , in euro, for renting a car is given by the formula:

$$C = 100 + 120d$$

where d is the number of days.

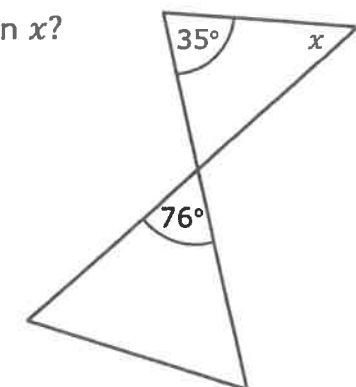
For how many days does Chris rent the car if the total cost amounts to €820?

- A) 6.8 B) 7 C) 8 D) 6

- 39 Which one of the following statements is correct?

- A) $5.314 < 5.5$
B) $2.8177 > 2.82$
C) $4.69 < 4.662$
D) $5.123 > 5.132$

- 40 What is the size of the angle marked with an x ?



- A) 55° B) 69° C) 76° D) 35°

20 x 2 marks = 40 marks