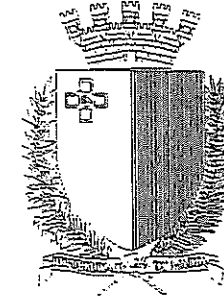


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**EXAMINATION FOR THE ENLISTMENT OF  
SOLDIERS IN THE ARMED FORCES OF  
MALTA**

February 2018

MATHEMATICS

TIME: 1 HOUR

## 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.

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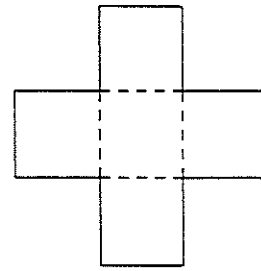
e.g. If answer C is selected, fill in the appropriate circle as shown below.

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.

- 47 The figure shows a cardboard consisting of 5 squares of equal area. The area of the whole figure is  $245 \text{ cm}^2$ . Find the length of the side of a square.

- A) 49 cm  
B) 9.8 cm  
C) 7 cm  
D) 5 cm

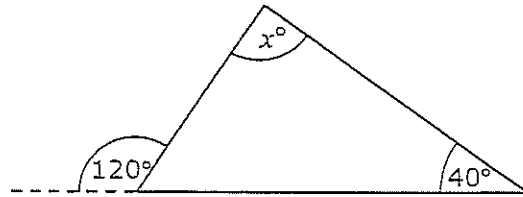


- 48 A yoghurt tub weighs 150g. It contains 12g fat. What percentage of the yoghurt is fat?

- A) 8%                  B) 12%                  C) 1.2%                  D) 15%

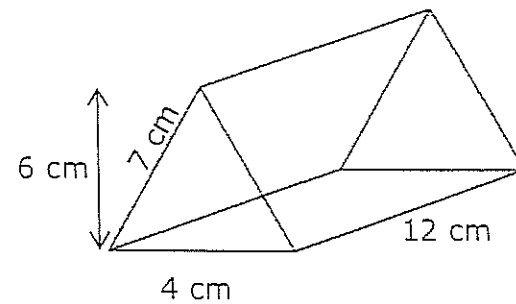
- 49 Work out the value of angle  $x$ .

- A)  $80^\circ$   
B)  $100^\circ$   
C)  $160^\circ$   
D)  $40^\circ$



- 50 Calculate the volume of this shape.

- A)  $168 \text{ cm}^3$   
B)  $144 \text{ cm}^3$   
C)  $288 \text{ cm}^3$   
D)  $336 \text{ cm}^3$



10 x 2 marks = 20 marks

**TOTAL: 100 MARKS**

**Section A**

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

- 1 Fill in the missing terms on the sequence 2.50, 2.75, 3.00, \_\_\_\_\_, \_\_\_\_\_

- A) 3.50, 4.00          B) 3.25, 3.50          C) 3.75, 3.50          D) 3.50, 3.75

- 2 Express  $\frac{13}{50}$  as a percentage.

- A) 52%                  B) 13%                  C) 130%                  D) 26%

- 3 Convert 3005 m into kilometres and metres.

- A) 3 km 5 m          A) 3 km 50 m          A) 30 km 5 m          A) 3 km 500 m

- 4 Simplify the ratio 72:24 in its simplest form.

- A) 3 : 1                  B) 8 : 3                  C) 1 : 3                  D) 4 : 3

- 5 Express 0.84 as a fraction.

- A)  $\frac{12}{40}$                   B)  $\frac{24}{25}$                   C)  $\frac{21}{25}$                   D)  $\frac{47}{50}$

- 6 The time 02:20 can be written as:

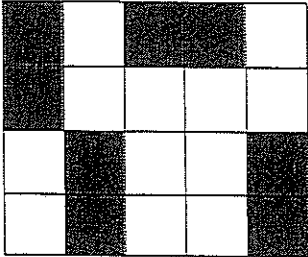
- A) 14:20  
B) twenty minutes past two in the afternoon  
C) twenty minutes past two in the morning  
D) 2.20 p.m.

- 7 A grocery store lists its profits and losses as:

– €200, €400, –€300, €100

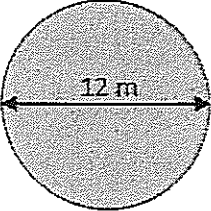
Write these numbers in order starting from the smallest.

- A) –€300, –€200, €100, €400  
B) –€200, €100, –€300, €400  
C) €100, €400, –€200, –€300  
D) €400, €100, –€300, –€200

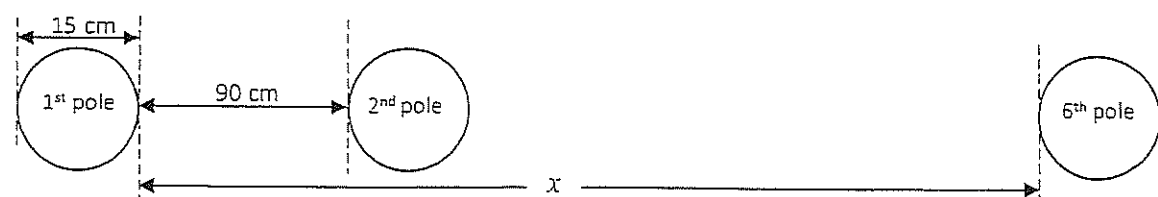
8	Work out: $\frac{1}{7}$ of 644 m	A) 97 m	B) 92 m	C) 76 m	D) 90 m
9	Express 8% as a decimal.	A) 0.08	B) 0.8	C) 8.00	D) 0.008
10	What percentage of the shape is shaded?				
		A) 80%	B) 20%	C) 40%	D) 8%
11	Convert 42 months in years.	A) 4.2 years	B) 3.5 years	C) 6 years	D) 3.6 years
12	In triangle PQR, $\hat{P} = 120^\circ$ and $\hat{Q} = 30^\circ$ . Triangle PQR is:	A) scalene	B) equilateral	C) right-angled	D) isosceles
13	A rectangular plot of land has an area of $189 \text{ m}^2$ . The plot is 9 m wide. Find its length.	A) 23 m	B) 198 m	C) 63 m	D) 21 m
14	A doctor sets a 20 minute appointment for every patient. He works an average of 60 hours per week. How many patients does he see in one week?	A) 150	B) 180	C) 120	D) 300
15	Work out: $8 \div 2 + 6 \times 3$	A) 22	B) 6	C) 3	D) $3\frac{1}{3}$

**Section C**

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

41	Gianni has an annual salary of €14 500. Next year he will get a 5% increase. Work out the value of his new salary.	A) €725.00	B) €13 775	C) €16 500	D) €15 225
42	Last week, Lucy worked 40 hours at €5.75 per hour and 4 hours overtime at €8.00 per hour. Calculate Lucy's pay for last week.	A) €262.00	B) €253.00	C) €320.00	D) €343.00
43	Four workmen paint an apartment in six days. How many workmen are needed to paint the same apartment in three days?	A) 6	B) 4	C) 8	D) 10
44	A new circular swimming pool has a diameter of 12 m. Calculate the circumference of the pool, correct to 2 d.p.				
		A) 75.4 m	B) 113.1 m	C) 452.4 m	D) 37.7 m
45	Work out: $4\frac{2}{3} - 1\frac{2}{5}$	A) $3\frac{4}{8}$	B) $3\frac{1}{15}$	C) $3\frac{1}{2}$	D) $3\frac{4}{15}$
46	On the same day, the temperature in Madrid was exactly <b>half way</b> between the temperatures in Amsterdam $10^\circ\text{C}$ and Moscow $-16^\circ\text{C}$ . What is the temperature in Madrid?	A) $-6^\circ\text{C}$	B) $13^\circ\text{C}$	C) $3^\circ\text{C}$	D) $-3^\circ\text{C}$

34 6 poles are placed 90 cm from each other along a straight line. Each pole is 15 cm wide. What is the distance  $x$  between the 1<sup>st</sup> and the 6<sup>th</sup> pole?



- A) 5.4 m      B) 4.5 m      C) 5.1 m      D) 6.3 m

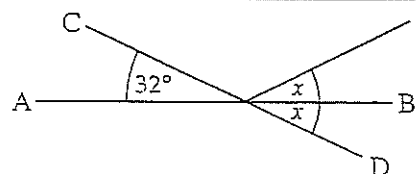
35 Which one of the following is larger than  $\frac{2}{5}$  but smaller than  $\frac{3}{5}$ ?

- A)  $\frac{7}{20}$       B)  $\frac{16}{25}$       C)  $\frac{3}{10}$       D)  $\frac{7}{15}$

36 336 lottery tickets were sold in all. The first ticket drawn will be the winner. A man bought three tickets. What is the probability that the man wins the lottery?

- A)  $\frac{1}{336}$       B)  $\frac{1}{112}$       C)  $\frac{1}{2}$       D) 1

37 CD and AB are straight lines. What is the size of the angle marked  $x$ ?

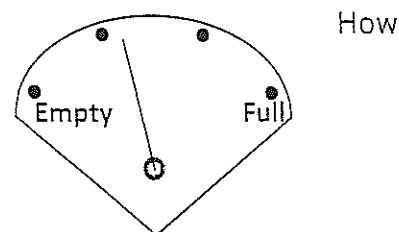


- A)  $32^\circ$       B)  $16^\circ$       C)  $64^\circ$       D)  $116^\circ$

38 Calculate the simple interest on €3250 for 5 years at 2% per annum.

- A) €1625      B) €125      C) €325      D) €250

39 The full capacity of a truck fuel tank is 120 litres. How much fuel in litres is shown on the fuel gauge?



- A) 38  
B) 48  
C) 58  
D) 68

40 A door hinge needs 3 screws. Each hinge costs €2.30 and each screw costs 15c. What is the total cost of 9 door hinges and the required number of screws?

- A) €24.75      B) €22.05      C) €25.25      D) €38.52

20 x 2 marks = 40 mark

16 A parallelogram has:

- A) only two equal angles  
B) only three equal angles  
C) opposite angles equal  
D) all four sides parallel to each other

17 Which one of the following pairs of angles together form a complete turn?

- A)  $70^\circ$  and  $110^\circ$   
B)  $200^\circ$  and  $120^\circ$   
C)  $35^\circ$  and  $55^\circ$   
D)  $170^\circ$  and  $190^\circ$

18 A car travels at 64 km/h. Calculate the distance travelled in 45 minutes.

- A) 21.3 km      B) 48 km      C) 28.8 km      D) 19.2 km

19 A set of numbers is made up of 8 numbers.

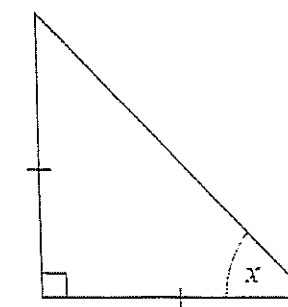
49, 37, 55, 57, 37, 51, 55,  $x$

The set has a mode of 55. What is the value of  $x$ ?

- A) 51      B) 53      C) 37      D) 55

20 Calculate the value of angle  $x$ .

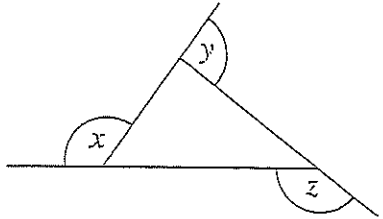

- A)  $45^\circ$   
B)  $90^\circ$   
C)  $60^\circ$   
D)  $30^\circ$



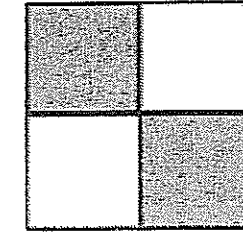
20 x 2 marks = 40 marks

**Section B**

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

21	The missing terms in the sequence 13, 15, 18, ____, 27, ____, 40 are:
	A) 21 and 34      B) 20 and 29      C) 22 and 33      D) 19 and 28
22	What angle does the minute hand of a clock turn in 25 minutes?
	A) 25°      B) 30°      C) 150°      D) 125°
23	Find the value of $3a + 2b - 5c$ when $a = 4, b = 6$ and $c = 1$ .
	A) 19      B) 10      C) 29      D) 0
24	The sum of the angles marked $x, y$ and $z$ is:
	
	A) 90°      B) 180°      C) 270°      D) 360°
25	Two of the sides of a triangle are equal to 5 cm and 6 cm. The third side is equal to:
	A) 8 cm      B) 11 cm      C) 12      D) 13 cm
26	Correct to 1 decimal place, what is the value of the number at which the arrow is pointing?
	
	A) 3.5      B) 0.9      C) 3.9      D) 3.8

27 The order of rotational symmetry of this shape is:



- A)  $\frac{1}{2}$       B) 2      C) 3      D) 4

28 A map scale is given as 1:200,000. What real distance is represented by 5.5 cm on the map?

- A) 5.5 km      B) 11 km      C) 55 m      D) 1.1 km

29 Work out:  $1\frac{1}{3} + 2\frac{3}{5} \times \frac{5}{6}$

- A)  $3\frac{5}{18}$       B)  $4\frac{23}{30}$       C)  $1\frac{1}{3}$       D)  $3\frac{1}{2}$

30 A rifle can fire a bullet at 300 m/s. How long will a bullet take to hit a target which is 60 m away from the rifle?

- A) 0.2 seconds      B) 0.3 seconds      C) 2 seconds      D) 5 seconds

31 20 kg of cement cost €5.40. What is the cost of 3 kg of cement?

- A) 50 c      B) 81 c      C) €1.10      D) 28 c

32 A TV costs €850. The TV is sold at a discounted price of €680. Calculate the percentage discount.

- A) 5%      B) 10%      C) 15%      D) 20%

33 Mark, Stephen and Paul are 7 years, 9 years and 12 years old respectively. A sum of €3444 is to be shared between Mark, Stephen and Paul in the ratio of their ages. How much will Mark receive?

- A) €861      B) €1148      C) €1107      D) €722