

**AMERICAN ACADEMY LARNACA**

**ENTRANCE EXAMINATIONS**

**SAMPLE 1**

**M A T H E M A T I C S**

**TIME: 1 hour and 30 minutes**

**INSTRUCTIONS**

- There are **12** questions in **PART A** and **14** questions in **PART B**.
- Full marks will be given if you answer correctly ALL questions.
- The total marks of the test is **100**.
- Work fast, but carefully and make sure you show all your workings.
- The marks given are shown at the end of each question.

**Do not write anything** in the box

at the end of each page

**Calculators are NOT allowed**

**SCORE**

**SECTION A:**

This Section contains **11** questions.

1. Find the value of the following:

a)  $8171 - 959 + 78 - 69 =$

= .....  
(2 marks)

b)  $27.3 - 16.29 + 9.16 - 0.118 =$

= .....  
(2 marks)

c)  $3942 + 598 - (42 + 66) =$

= .....  
(2 marks)

2. Find the missing number.

a)  $4.261 \times 100 = \dots\dots\dots$

b)  $4276 \div \dots\dots\dots = 0.4276$

c)  $20.768 \times 0.1 = \dots\dots\dots$

d)  $23.399 \div 100 = \dots\dots\dots$

**(4 marks)**

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3. Find the value of:

a)  $41 \times 690 =$

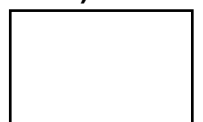
**=.....  
(1 mark)**

b)  $0.22 \times 1.375 =$

**=.....  
(2 marks)**

c)  $(2128 \div 76) - (28 \times \frac{1}{7}) =$

**=.....  
(3 marks)**



4. The following rule converts miles to kilometres.

Multiply by 8 and then divide by 5.

Use the above rule to complete the table below:

Miles	30		62.5
kilometres		80	

(3 marks)

5. Complete the following table. Give your answers to the simplest form.

FRACTION	DECIMAL	PERCENTAGE (%)
$4\frac{3}{5}$		
	0.52	
		2%

(3 marks)

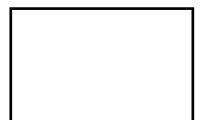
6. Given the following product

$$37 \times 234 = 8658$$

Find without calculations the following:

- a)  $3.7 \times 23.4 = \dots\dots\dots$   
b)  $37 \times 0.234 = \dots\dots\dots$   
c)  $865.8 \div 370 = \dots\dots\dots$

(3 marks)



7. Work out the following fractions giving your answers in the simplest form.

a)  $6\frac{1}{4} + 4\frac{2}{3} - \frac{5}{6} =$

=.....

b)  $3\frac{2}{5} \times \frac{15}{17} =$

=.....

c)  $\left(3\frac{1}{4} - 1\frac{7}{8}\right) - \left(\frac{5}{8} - \frac{2}{5}\right) =$

=.....

d)  $3\frac{9}{10} \div \left(3\frac{3}{5} - 1\frac{1}{2}\right) =$

=.....

**(9 marks)**



8. Complete the following, giving your answer in the appropriate unit shown next to the answer space:

a)  $0.065 \text{ m} = \dots\dots\dots \text{ mm}$

b)  $516 \text{ g} = \dots\dots\dots \text{ Kg}$

c)  $8978 \text{ cm} = \dots\dots\dots \text{ m}$

d)  $3.017 \text{ kg} = \dots\dots\dots \text{ g}$

**(2 marks)**

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9. Fill in the missing numbers to form the sequence.

a) 3, 12, , 192,

b) 3, 4, 7, 11, 18, ,

c) 11.5 10.25 9 , 6.5

**(6 marks)**

10. Write the following in ascending order:

(a)    2.42     $2\frac{1}{5}$     2.04    2.44     $2\frac{3}{8}$

Answer:    .....,    .....,    .....,    .....,    .....

(b)     $\frac{1}{3}$      $\frac{2}{5}$     25%    0,3    0,33

Answer:    .....,    .....,    .....,    .....,    .....

**(4 marks)**

11. Here is a list of numbers:

12    14    15    16    18    20    22    24

a) Which number in the list is a multiple of both 6 and 9?    .....

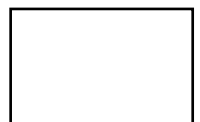
b) Two numbers in the list are factors of 90.

Which are the two numbers?    .....,    .....

c) Write down two numbers in the list that have a sum that is a prime number.

..... , .....

**(3 marks)**



## **Section B**

This Section contains **15** questions.

1. Ms. Ioannou needs  $2\frac{3}{10}$  Litres of milk to bake a cake. In the refrigerator she has two bottles of milk:

The first bottle contains  $\frac{3}{5}$  Litres of milk and the second bottle contains  $\frac{7}{8}$  Litres of milk.

- a) How many Litres of milk does Ms. Ioannou have in total?

..... Litres  
**(1 mark)**

- b) How much more milk will she need to bake the cake?

..... Litres  
**(1 mark)**

- 
2. A shirt costs \$25.

- a. How much do 50 shirts cost?

.....  
**(1 mark)**

- b. During sales, there is a 50% discount.

Maria and her 3 daughters bought 2 shirts each.

How much did they pay at the cashier's desk?

.....  
**(3 marks)**





3. George drives 30.5km in 20 minutes. He needs to cover a distance of 183km from town A to town B. If George, drives with a steady speed.

a. Find the total time he needs to cover the distance between the two towns.

..... hrs

**(2 marks)**

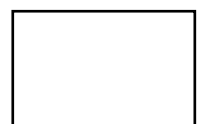
b. George, leaves town A at 9:15am and drives with the same steady speed. If he spends 50minutes in town B, what time will he arrive back to town A?

.....  
**(2 marks)**

- 
4. Andreas bought a house for \$33000. He also paid  $\frac{1}{3}$  of its price to renovate it. He then sold the house for \$55000.

Find the percentage profit he made after he sold the house.

..... %  
**(3 marks)**



5. Nikos wants to buy a television. He found two stores, which sell the same television.

Store A	Store B
Discount 40%	Discount $\frac{1}{3}$ of the price
	
Price €480	Price €420

Which store has the best deal for Nikos to buy the television?  
Show all your calculations.

**(3 marks)**

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6. Dan bought a piano for €2400.  
He paid 30% in cash, and the rest he paid off in 2 years.

Find how much Dan's **monthly** payment was.

€..... per month

**(3 marks)**

7. The cycling store 'Bikes4All' has the following rule for bicycle rentals.

$$\text{Cost in Euros} = 8 \times (\text{number of days}) + 15$$



Sophia wants to rent a bike for 11 days.

a. How much will Sophia pay?

€.....

(2 marks)

Eleni rented a bicycle and paid €71.

b. For how many days did Eleni rent the bicycle for?

..... days  
(2 marks)

8. Marios works at the Larnaca Airport.

He conducted a survey and asked **60** people which country they traveled from.

9 passengers arrived from France.

14 women arrived from Europe.

3 men arrived from France.

16 out of the 29 men arrived from Italy.

Use the above information to complete the table below:

	Europe	France	Italy	Total
Men				
Women				
Total				60

(4 marks)

9. The average weight of Antoni, Mark and Phil is 52kg.  
The average weight of Antoni and Phil is 46kg.

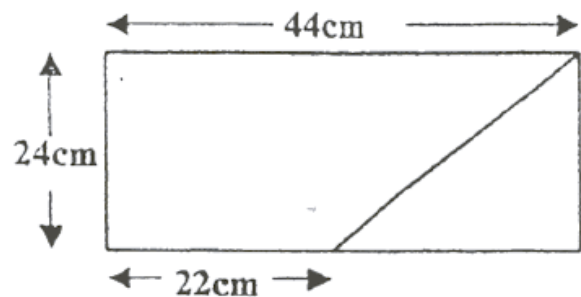
How much does Mark weigh?

..... kg

**(3 marks)**

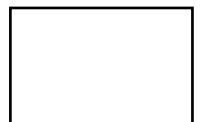
10. Using this diagram, find:

- The area of the rectangle.
- The area of the triangle.
- The area of the triangle, as a percentage of the area of the rectangle.



.....

**(4 marks)**



11. To make an orange chocolate chip cake for 12 people, we need the following ingredients.

Orange Chocolate Chip Cake Recipe
Ingredients for 12 people
360g flour 4 eggs 180g sugar 220g butter 30g orange juice 160g chocolate chips



- a. Leyla wants to make this cake for 8 people.

How many grams of flour will she need?

..... g

**(1 mark)**

- b. Stephanie will use the same recipe to make a cake for her friends.

She will use 330g of butter

Find how many friends Stephanie will have at her house.

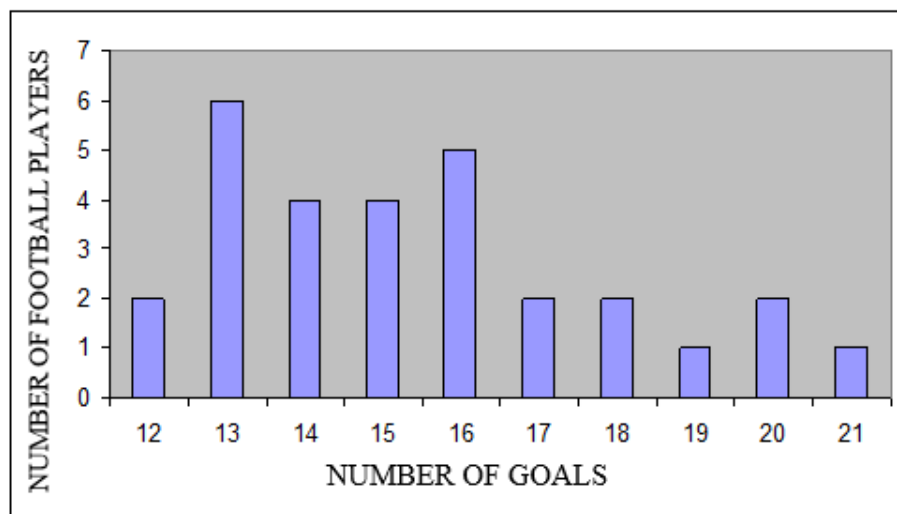
.....  
**(2 marks)**

- c. Debbie only has 70g of chocolate chips. She has all of the rest of the ingredients.  
She wants to bake the cake for her 5 friends.  
Does Debbie have enough chocolate chips to bake the cake? (show all your calculations)

**(2 marks)**

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12. The bar chart below shows the number of goals some football players scored.



a. Find the total number of football players.

.....

b. How many football players scored the most goals?

.....

c. How many football players scored more than 18 goals?

.....



(3 marks)

13. The ratio of dogs and cats at a shelter is **2:3**.  
There are 90 cats in total.  
How many dogs are there at the shelter?

.....dogs

**(2 marks)**

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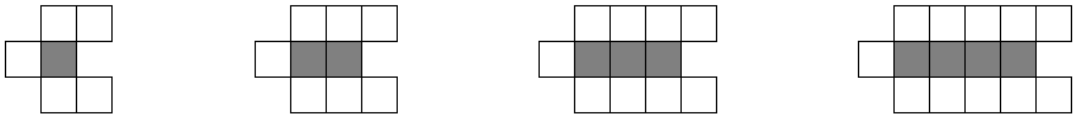
14. In a farm, there are horses and ducks.  
The ducks are more than the horses.  
All the animals together have a total of 36 heads and 100 legs.  
How many are the horses and how many are the ducks in the farm?

..... horses

..... ducks  
**(2 marks)**



15. Georgia has drawn the following four patterns.



a) Draw the next pattern.

b) Complete the table below.

Number of dark squares	Number of white squares	Total number of squares
1	5	6
2	7	9
3	9	12
4		
6		
9		
	23	
		45

(5 marks)

THE END.





EXTRA PAGES FOR WORKING OUT

