

JUNIOR LYCEUM ENTRANCE EXAMINATION 2000

MATHEMATICS

ANSWER ALL QUESTIONS.

(Questions 1 to 10 . . . 4 marks each; questions 11 to 20 . . . 6 marks each.)

1. a) Fill in with two **odd** numbers:

$$\bigcirc + \bigcirc = 24$$

- b) Fill in with two **prime** numbers:

$$24 = \bigcirc - \bigcirc$$

- c) Write down a **multiple** of 9. _____

- d) What shape has **four sides** and **four lines of symmetry**? _____

2.

May						
M	T	W	Th	F	Sa	Su
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



Andrew and Betty are looking at this month's calendar.

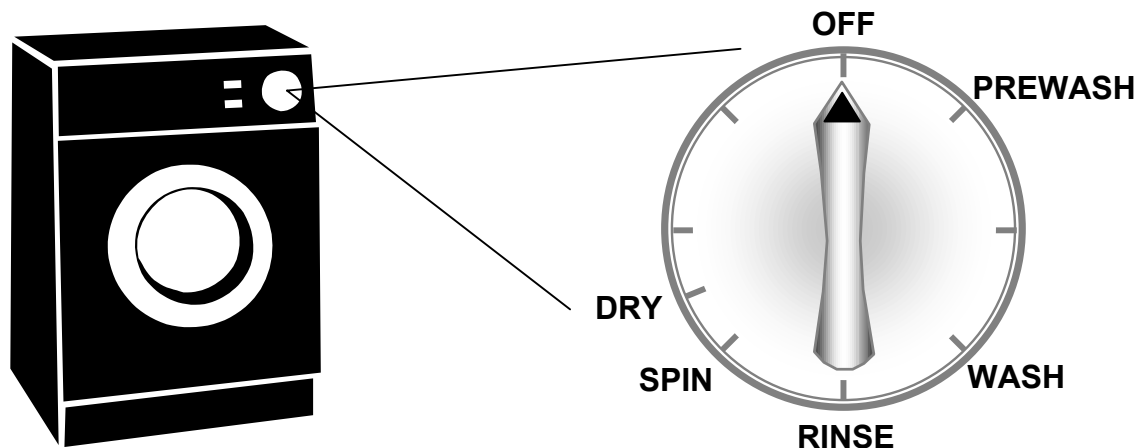
Andrew shades **23** and **15**.

Betty shades **22** and **16**.

Andrew works out 23×15 and Betty works out 22×16 .

Work out the **difference** between 22×16 and 23×15 .

3.



This picture shows the control switch on a washing machine in the **OFF** position.

a) Through what angle, **in degrees**, does the **pointer** turn

i) from **OFF** to **Wash**, **clockwise**; _____

ii) from **OFF** to **Wash**, **anticlockwise**? _____

b) The information in this table tells you how long the washing machine takes to complete **each action**:

Prewash	Wash	Rinse	Spin	Dry
40 minutes	20 minutes	20 minutes	10 minutes	50 minutes

How long does the washing machine take to finish **all** the five actions?

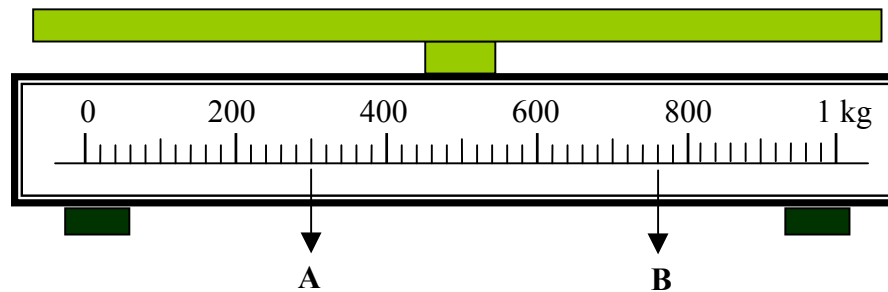
_____ h _____ min

-
4. Betty records in this table the number of coins she finds in her moneybox.

Coin	1c	2c	5c	10c	25c	50c	Lm1
Number of Coins	0	56	17	29	12	15	8

Work out the total value of these coins.

-
5. a) This picture shows the kitchen scales of Betty's mother.



- i) What is the reading at **A**? _____ g
- ii) What is the reading at **B**? _____ g
- b) Andrew's father has a rope 3.5 metres long. He cuts off 55 cm from it. What length of rope is left?

6.

Kiddy Cartoon	
	
12:45	Tommy and Jenny
13:15	The Surfs
13:50	The Powder-Puff Girls
14:25	Scoozy Zoo
15:05	Blinking Billy
15:40	Pinky Winky
16:15	Spades Coast
16:50	Flying Tales

**This is a TV Cartoon Guide.
Use it to answer these questions.**

i) How long is **The Surfs**?

_____ min

ii) Betty watches **The Powder-Puff Girls**, **Scoozy Zoo**, **Blinking Billy** and **Pinky Winky**. How much time does Betty spend watching these four cartoons?

_____ h _____ min

7. Andrew's heart beats about **85 times** in **1 minute**.

How many times does his heart beat in

i) **1 hour**;

ii) **1 day**?

8. 593 students and 14 teachers are going on a bus trip to Ta' Qali Stadium. Each bus can seat 47 persons. No standing is allowed. How many buses are needed?

_____ buses

9. **Underline the correct answer:**

- a) The **area** of a postage stamp is about

60 cm²

12 cm²

0.5 cm²

1 m²

- b) The **weight** of 6 apples is about

6 g

1 kg

100 g

6 kg

- c) The **capacity** of a kettle is about

100 ml
litres

3 ml

100 litres

3

- d) The **distance** from Valletta to Cirkewwa is about

999 m

30 m

30 km

999km

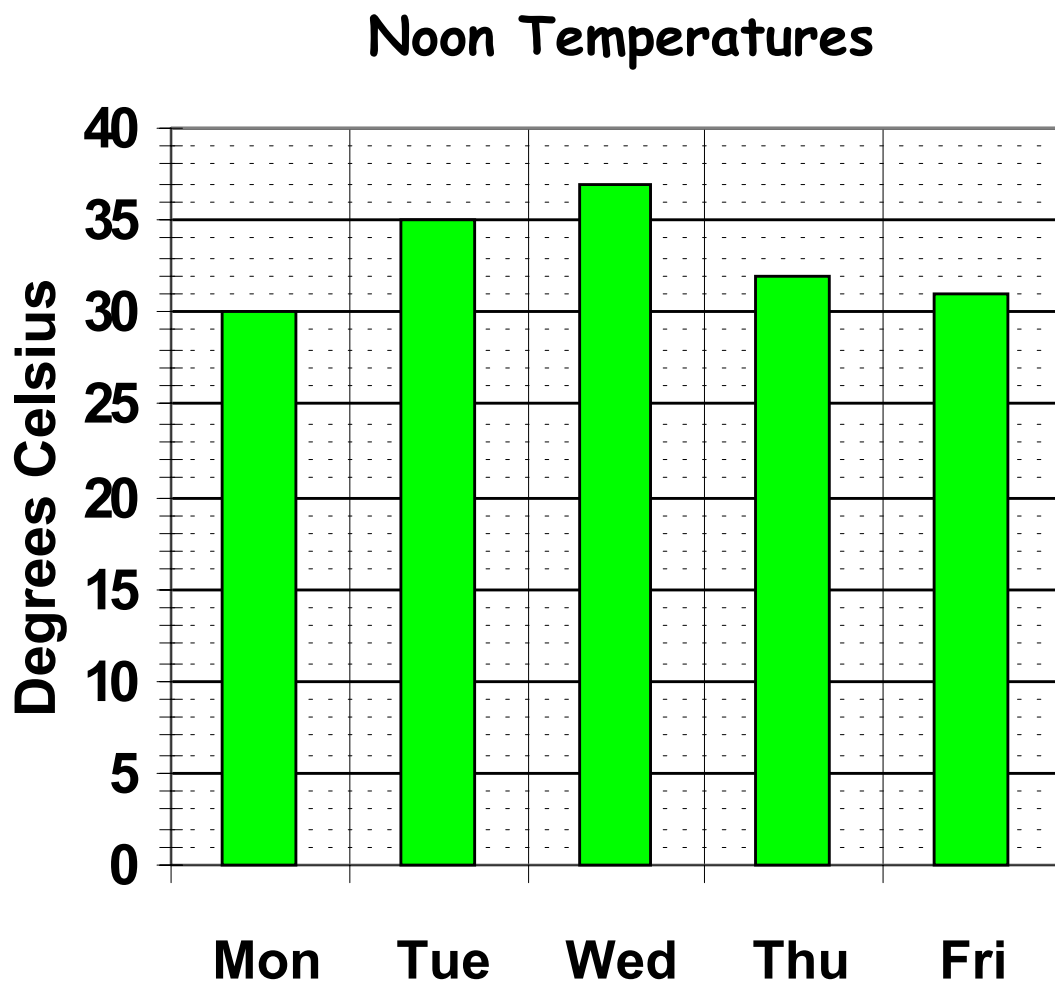
10. Betty's mother bought **4 chairs** and **2 tables** from a Furniture Centre. She spends **Lm306** altogether.

Betty finds this torn receipt.

Furniture Centre			
	Quantity	Unit Price	Cost
Chairs	4	Lm27	Lm
Tables	2	L	
			Total: Lm306

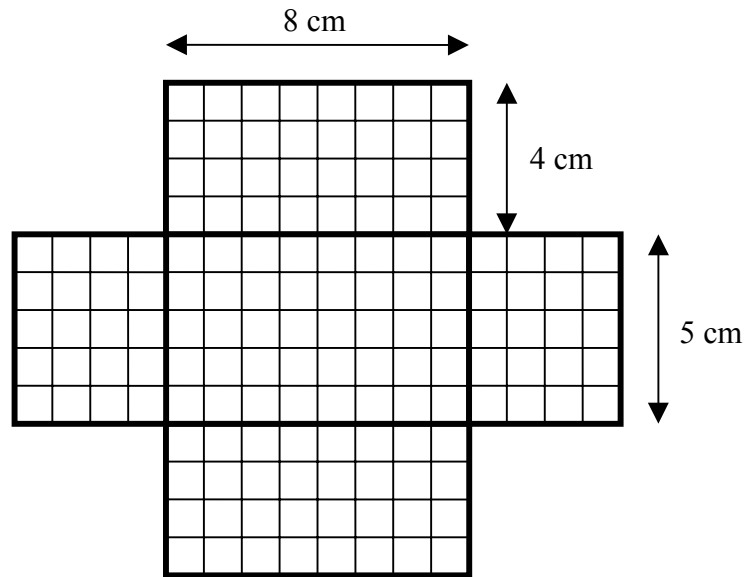
From the receipt she can see that the price of **one chair** is **Lm27**. She now wants to find out the price of one table.
Work out the price of **one table**.

11. This chart shows the noon temperatures recorded over five days.



- i) Work out the **average** noon temperature for these five days.
- ii) Draw a **horizontal line** on the chart to show the **average** noon temperature for these five days.
- iii) **Complete:** The noon temperature on Wednesday was ____ degrees Celsius **above** the average noon temperature.

12. Andrew draws this net on one centimetre squared paper, using the shown measurements. He then cuts out the net and folds it to make an **open** cuboid.



- i) Work out the **total area** of the net.

_____ **cm²**

- ii) Andrew packs the whole cuboid with **one centimetre cubes**. How many cubes does he use?

_____ **cubes**

13. a) A piece of wood is **3 $\frac{1}{4}$ metres** long.
Another piece of wood is **2 $\frac{1}{2}$ metres** long.

- i) Work out the total length of the two pieces of wood, in **metres**.

_____ **m**

- ii) Work out the difference between the lengths of the two pieces of wood, in **centimetres**.

_____ **cm**

- b) A **55g** packet of crisps has **20%** fat.

- i) What **fraction** of the packet is fat?

- ii) How much fat is that?

_____ **g**

14.



This picture shows a **100g jar of Instant Coffee**.
It is sold for **96 cents**.

10% of this money goes to the coffee growers.

10% goes to the exporters.

20% goes to the coffee roasters.

35% goes to the shippers.

The rest goes to the **retailers**.

i) What **percentage** goes to the **retailers**?

_____ %

ii) How much money goes to the **retailers**?

_____ cents

iii) Roughly **300g of coffee beans** are needed to make **one 100g jar** of Instant Coffee.

How many **kilograms of coffee beans** are needed to make **twenty** jars of Instant Coffee?

_____ kg

15. To make a cup of coffee, Betty's mother adds **2g** of Instant Coffee to **150 ml** of hot water.

i) How many cups of coffee can mother make from **one full 100g jar** of Instant Coffee?

_____ cups

ii) How many **litres** of hot water will mother use to make all these cups of coffee?

_____ litres

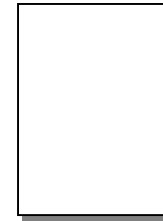
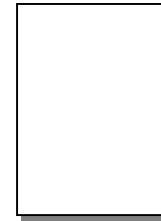
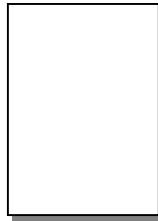
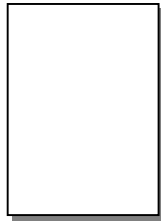
16. a) Write in order of size, **smallest first**:

0.5

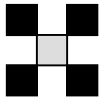
Two
Fifths

$\frac{7}{10}$

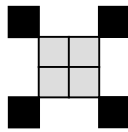
60%



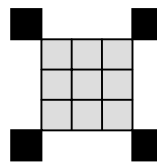
b) Observe carefully these patterns which are made with **black** and **grey** tiles.



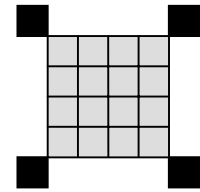
Pattern 1



Pattern 2



Pattern 3

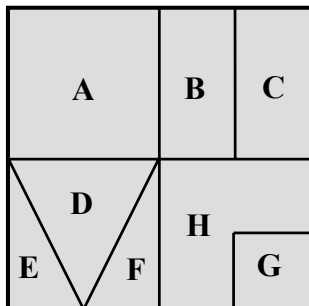


Pattern 4

Complete:

- i) Pattern 4 has _____ **black** tiles and _____ **grey** tiles.
- ii) Pattern 9 will have _____ **black** tiles and _____ **grey** tiles.

17.



This plan shows a **square** garden divided into eight parts.
Each part is marked with a letter.

What **fraction** of the **whole** garden is each part?

A	_____	B	_____
C	_____	D	_____
E	_____	F	_____
G	_____	H	_____

18. Andrew and Betty go to a Fun Fair. These are the prices of Fun Rides at the Fair.

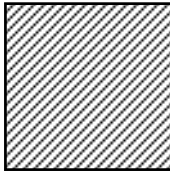
Fun Rides	
Big Wheel	Lm1.25
Spaceship	Lm0.95
Invader	Lm1.55
Galactica	Lm2.60

- i) Andrew takes **two rides** on **Big Wheel** and **three rides** on **Invader**.
How much does he spend in all?

- ii) Betty takes **three different rides**.
She gets Lm4.60 change from Lm10.

The three different rides she takes are:

19. This **square** and this **rectangle** have the **same area**.



3 cm

- i) The **perimeter** of the **square** is 24 cm.
Work out the **area** of the square.

_____ **cm²**

- ii) The **breadth** of the **rectangle** is 3 cm.
Work out the **length** of the rectangle.

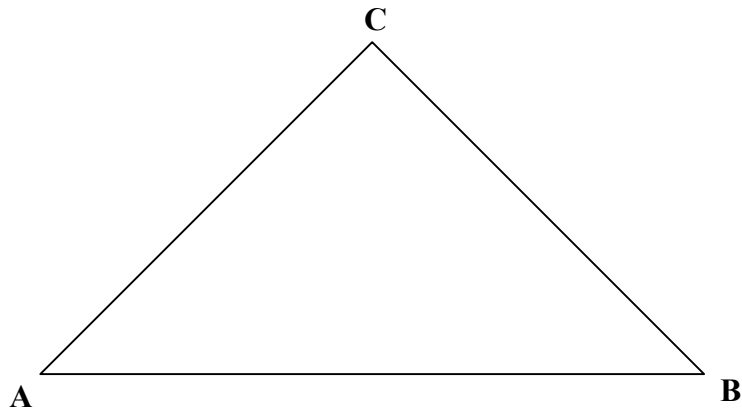
_____ **cm**

- iii) Work out the **perimeter** of the **rectangle**.

_____ **cm**

20. ABC is a triangle.

- i) Draw a circle, **centre C**, passing through **A** and **B**.



- ii) **Measure** and write down the length of the **radius** of the circle.

_____ **cm**.

- iii) **Complete:** The **diameter** of the circle is _____ **cm** long.

- iv) **Measure** and write down the **size** of the three angles of triangle ABC.

Angle **A** = _____ Angle **B** = _____ Angle **C** = _____

- v) Is triangle ABC **equilateral**, **isosceles** or **scalene**? _____
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END OF PAPER