

**Junior Lyceum Entrance Examination
into Form One**

2007

MATHEMATICS

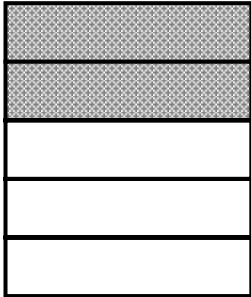
DO NOT WRITE IN THIS SPACE

ANSWER ALL QUESTIONS

Questions 1 to 10 ... 1 mark each.

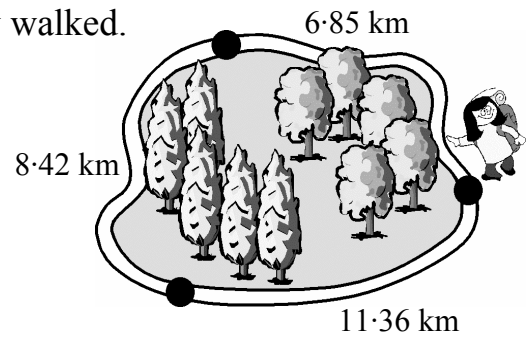
Questions 11 to 19 ... 4 marks each.

Questions 20 to 28 ... 6 marks each.

1. $6000 - 2998 =$ _____	2. $298 \div 100 =$ _____
3. Write in figures : Ten thousand, eight hundred and fifty-two. _____	4. Round 16.91 to the nearest whole number. _____
5. Fill in with two odd numbers : <input type="text"/> - <input type="text"/> = 32	6. $\frac{7}{8}$ of 32 = _____
7. Tick <input checked="" type="checkbox"/> the best estimate for: $49.96 + 509.6$ a) 450 <input type="checkbox"/> b) 500 <input type="checkbox"/> c) 550 <input type="checkbox"/> d) 600 <input type="checkbox"/> e) 650 <input type="checkbox"/>	8. What percentage of the shape is shaded?  _____ %
9. 2500 is the square of _____.	10. Half of 460 = double _____

11. Jenny walked **once** round this garden.

a) Work out the **total distance**, in kilometres, Jenny walked.

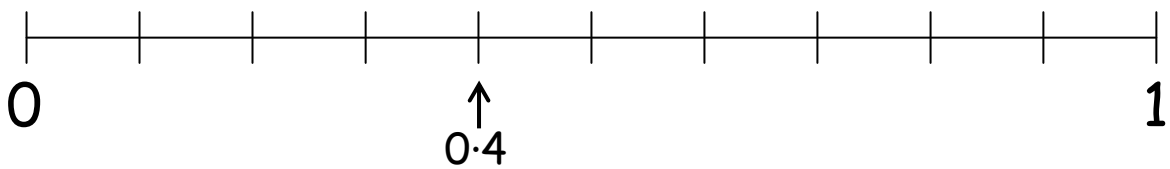


_____ km

b) Change, to **metres**, the distance Jenny walked.

_____ m

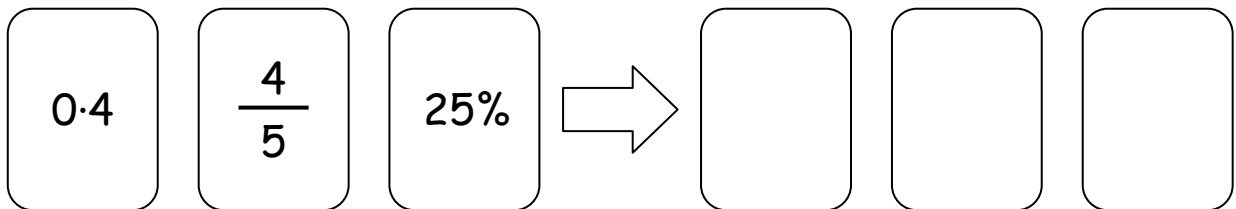
12. a) The arrow points to **0.4** on the **number line**.



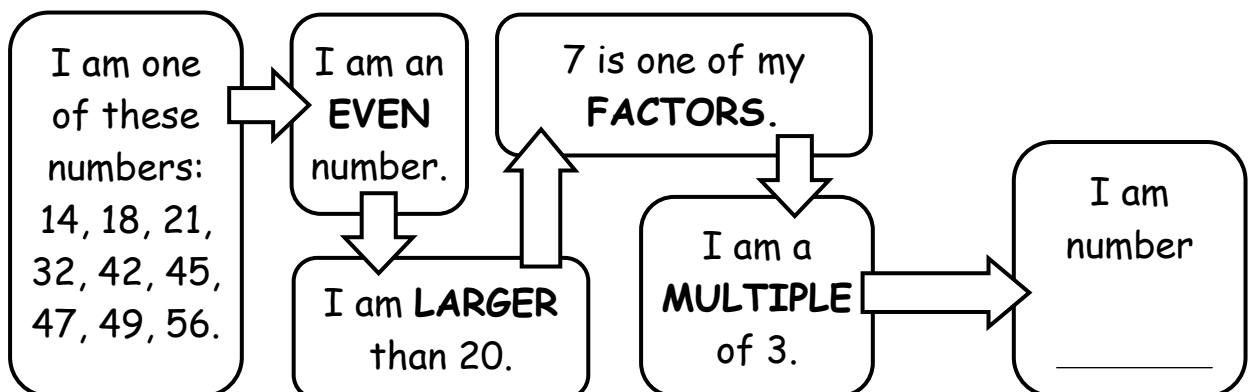
Use arrows to **mark** i) $\frac{4}{5}$ ii) 25% on the above number line.

Label each number as in the example.

b) Write these numbers **in order** from the **largest to the smallest**.



13. What **number** am I?



14. Here are some number facts:

$$1 \cdot 2 \times 4 = 4 \cdot 8$$

$$6 \cdot 4 - 2 \cdot 9 = 3 \cdot 5$$

$$8 \cdot 4 \div 3 = 2 \cdot 8$$

Use the above facts to complete the following:

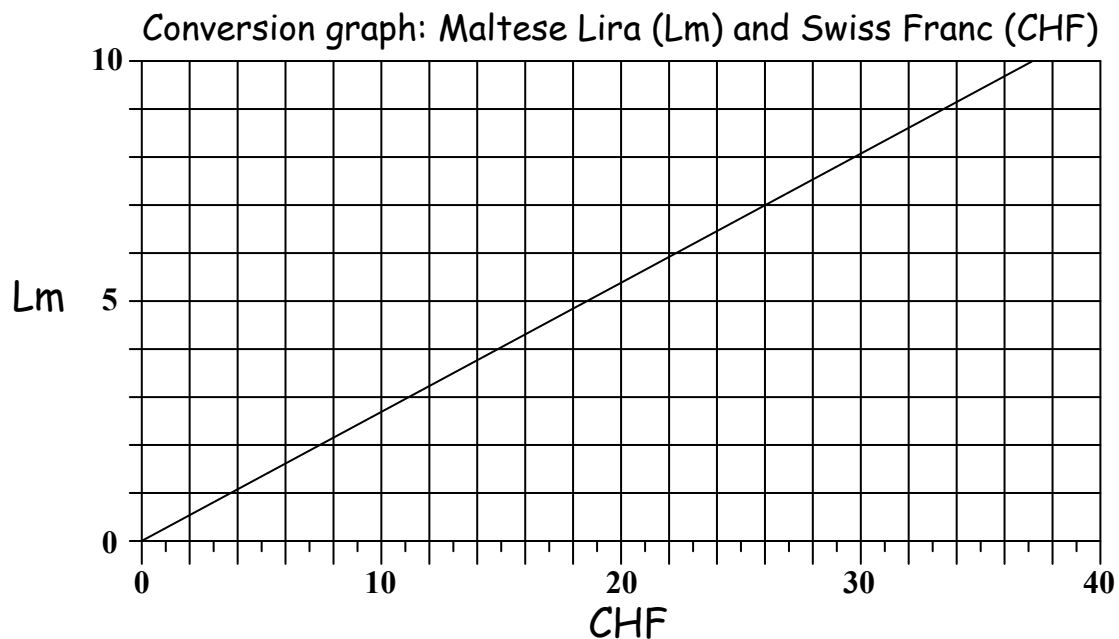
a) $3 \cdot 5 + 2 \cdot 9 =$ _____

b) $\frac{1}{4}$ of $4 \cdot 8 =$ _____

c) Three lots of $2 \cdot 8 =$ _____

d) $4 \cdot 8 \div 1 \cdot 2 =$ _____

15. This graph converts between **Maltese Lira (Lm)** and **Swiss Franc (CHF)**.



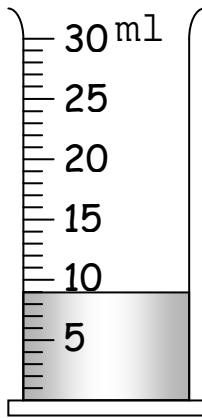
a) Use the graph to complete:

i) **26 CHF** is **Lm** _____ ii) **Lm3** is _____ **CHF**

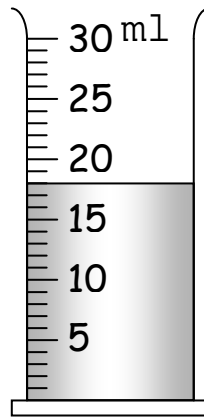
b) Hans spends **Lm3·40**, **Lm1·75** and **Lm5·35** in three different shops.
Work out the **mean** (average) amount spent at each shop.

Lm _____

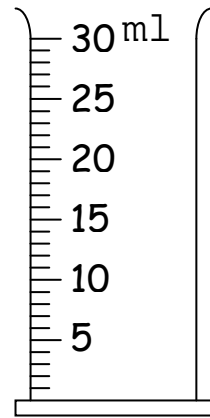
16.



Jar A



Jar B



Jar C

- a) i) There are _____ ml of water in **Jar A**.
ii) There are _____ ml of water in **Jar B**.
- b) The water in **Jars A and B** is **poured into Jar C**.
Draw the level of the water in **Jar C**.
- c) How many **more** millilitres of water are needed to fill **Jar C** up to the **30 ml** mark?

_____ ml

17. Louis helps his mother in the garden for **six days a week**.

He is asked to choose how to receive his weekly pocket money.

His choices are:

Choice A: A **total** of Lm5 for the six days.

Choice B: 85 cents for **each day** he helps his mother.

Choice C: 8c for the first day, 16c for the second day, 32c for the third day, and so on with his pocket money **doubling** for each of the remaining three days.

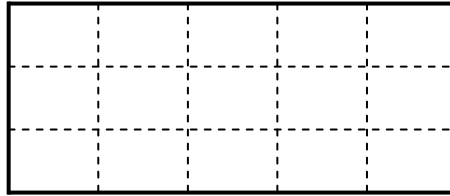
- a) How much pocket money does Louis receive for **Choice B** and **Choice C**?

Choice B: Lm _____; **Choice C:** Lm _____

- b) Which choice will give Louis the **greatest** amount of pocket money?

Choice _____

18. a) Shade $\frac{3}{5}$ of this shape.



b) Write a fraction that is **equivalent** to:

$$\frac{3}{5} = \underline{\quad}$$

c) Write \lt , $=$ or \gt in the box to make the statement correct.

$$\frac{3}{5} \quad \square \quad \frac{9}{20}$$

d) Fill in the box with a **two-digit number** to make the statement correct.

$$\frac{3}{5} \text{ of } \square = 9$$

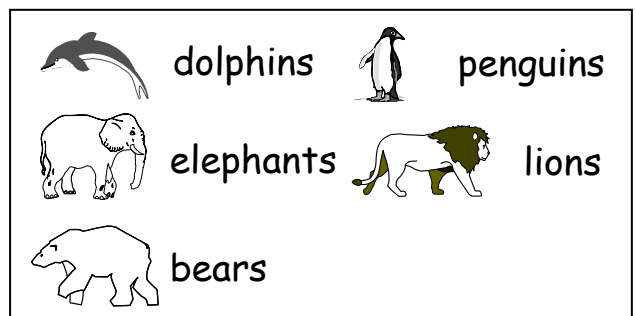
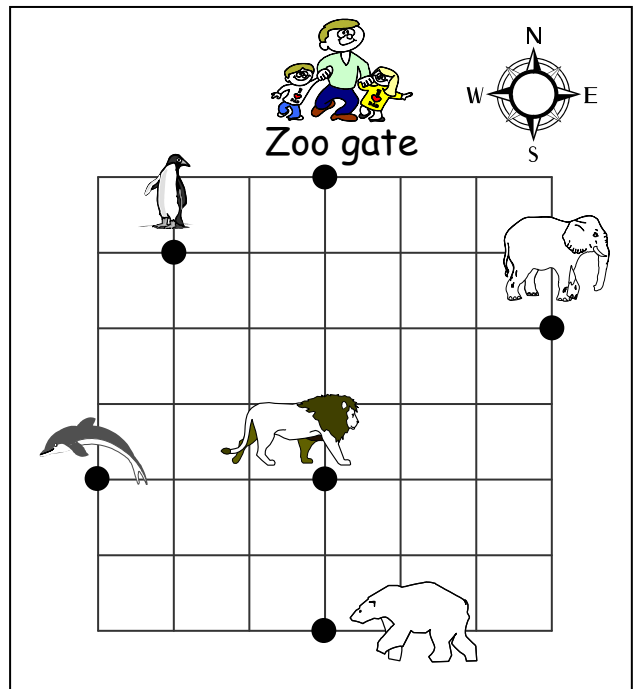
19. Dad takes Monica and Anton to the zoo. On the plan they are seen at the zoo gate. Each side of a square on the plan represents 15 m.

a) They walk **30 m South** and then **45 m East** and arrive near the elephants.

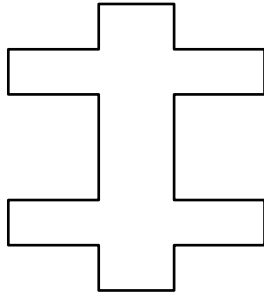
Then they walk **30 m South** and **45 m West** and arrive near the

_____.

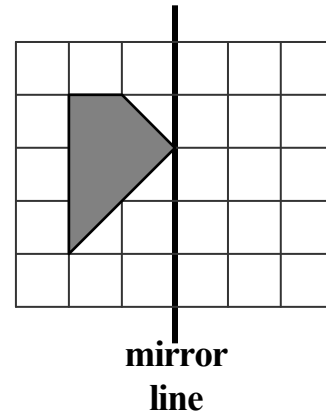
b) Describe a **path** the family can take to go **from the bears to the penguins**. (Use distance and compass directions.)



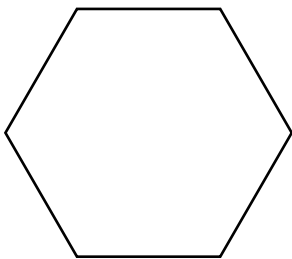
20. a) Draw **all** the lines of **symmetry** of this shape.



b) Draw the **reflection** of the shaded shape in the mirror line.

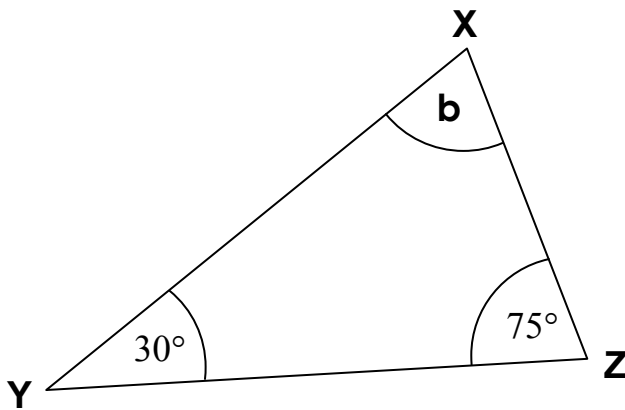


c) **All** the **sides** and **angles** of this shape are **equal**.



How many **lines of symmetry** does the shape have? _____ **lines of symmetry**

21. a) Find the value of the missing angle.



b = _____

b) Complete:

Triangle **XYZ** is:

_____ (scalene, isosceles, equilateral, right-angled)

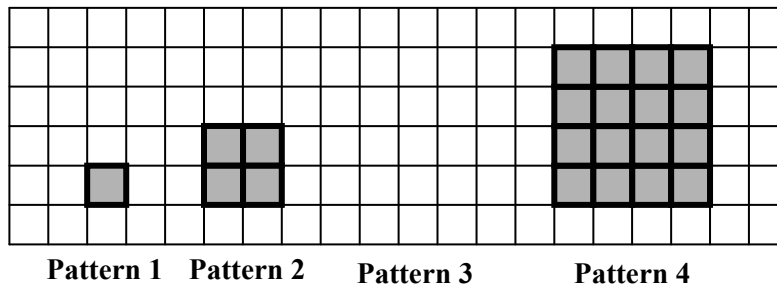
because _____

22. a) **Complete** the pattern.

3·25, 3·5, 3·75, 4, 4·25, _____, 4·75.

b) i) Look at the patterns on this grid.

Draw **Pattern 3**.



ii) Look carefully at each pattern and **complete the table**.

Pattern	1	2	3	4
Number of shaded squares	1	4		

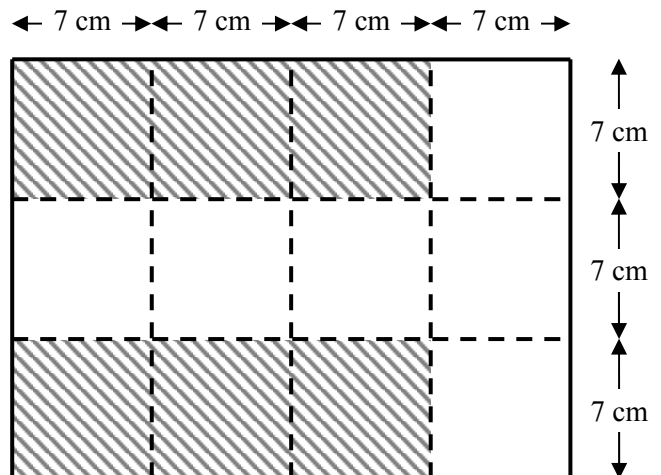
iii) **Pattern 6** will have _____ shaded squares.

iv) **Pattern** _____ will have **81** shaded squares.

23. The picture shows a rectangular piece of cardboard.

The shaded parts are cut off.

The remaining part of the cardboard is used to form the **net** of a solid.



a) The **solid** formed by this net

is called a _____.

b) The **solid** formed has:

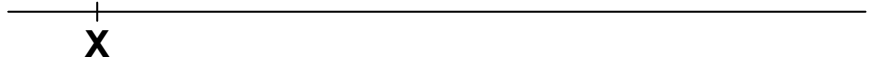
i) _____ **edges**

ii) _____ **vertices**.

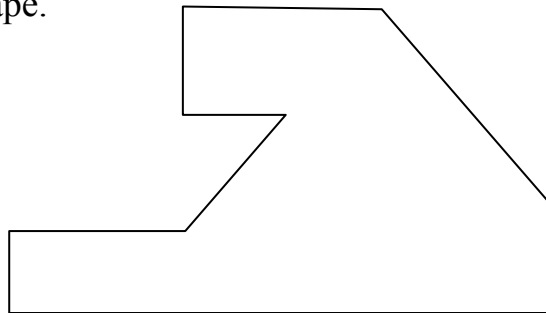
c) Work out the **area** of the **net**.

_____ **cm²**

24. a) Use your protractor to **draw** and **mark** an angle of 115° at **X**.



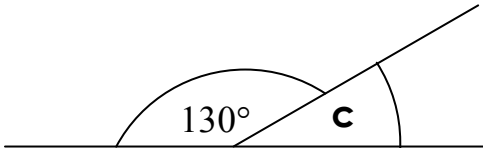
b) Look at this shape.



Complete: In this shape there are _____ **vertical** lines.

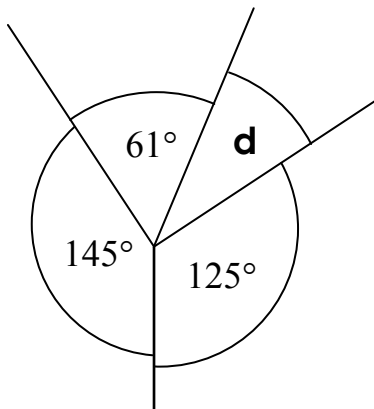
c) Work out the value of the missing angles.

i)



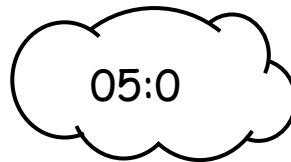
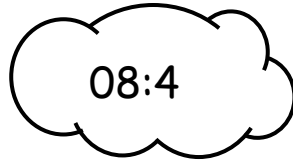
$c =$ _____

ii)



$d =$ _____

25. a) Write these times **in order** starting from the **earliest**.



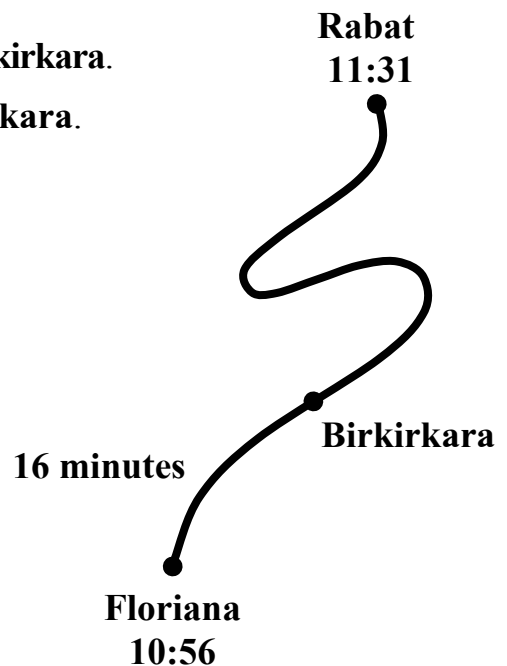
_____, _____, _____, _____.

b) Tamara drives from **Floriana** to **Rabat**.

The picture shows the journey Tamara takes.

She takes 16 minutes to drive from **Floriana** to **Birkirkara**.

i) Work out the **time** when she arrives at **Birkirkara**.



ii) How long does she take to drive from **Floriana** to **Rabat**?

_____ minutes

26. A school buys **1000 m** of curtain material.
246 m are used to make curtains for the offices.
The **rest** of the material is used to make curtains for all the classrooms in the school.

a) How many **metres** of curtain material are used for the classrooms?

b) **29 m** of curtain material are used for each classroom. _____ **m**

i) **Estimate** how many classrooms there are in the school.

Estimated number of classrooms _____

ii) Work out the **exact number** of classrooms in the school.

Exact number of classrooms _____

27. Leli's boat uses **5 litres** of petrol to travel **40 km**.

a) Work out **how far** the boat can travel on **50 litres** of petrol.

b) Leli wants to make a boat trip of **320 km**.
_____ **km**

Explain why 35 litres of petrol are **not** enough for this trip.

28. a) Each **shaded shape** hides a **different digit** from **0 to 9**.
Find which **digit** each **shaded shape** is hiding.

$$1 \cdot \text{○} \times 7 = \text{◇} \cdot 1$$

$$\text{○} = \underline{\hspace{2cm}} \quad \text{◇} = \underline{\hspace{2cm}}$$

- b) The letters **x**, **y** and **z** represent **three different digits** from **0 to 9**.
Find which **digit** each **letter** represents.

$$\boxed{x} \boxed{x} \boxed{x} + \boxed{y} = \boxed{y} \boxed{z} \boxed{z} \boxed{z}$$

$$x = \underline{\hspace{2cm}} \quad y = \underline{\hspace{2cm}} \quad z = \underline{\hspace{2cm}}$$

- c) Use **three different digits** from **1 to 9** to make this multiplication correct:

$$\boxed{} \cdot \boxed{} \times \boxed{} = 76 \cdot 5$$