

RESIT EXAMINATION - JULY 2009

Junior Lyceum Entrance Examination into Form One

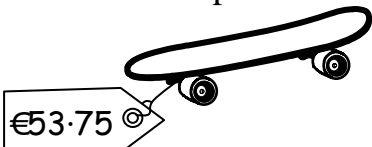
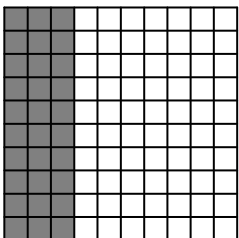

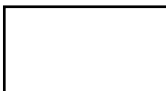
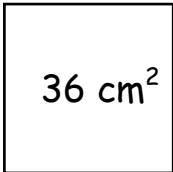
MATHEMATICS

ANSWER ALL QUESTIONS

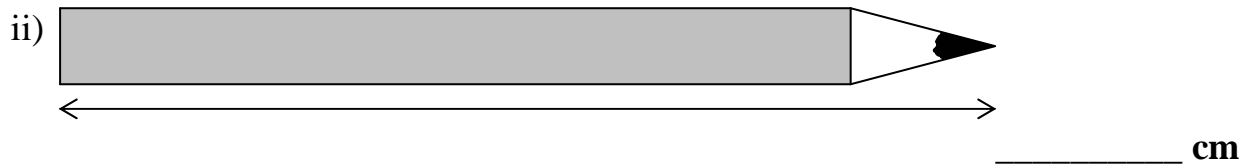
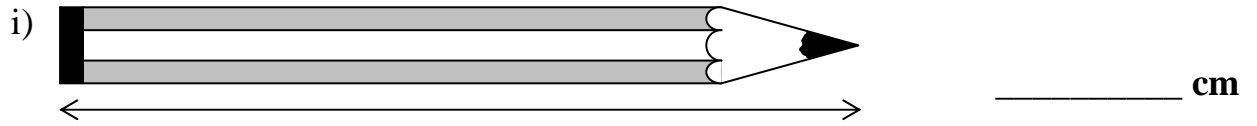
Questions 1 to 10 ... 1 mark each.

Questions 11 to 19 ... 4 marks each.

Questions 20 to 28 ... 6 marks each.

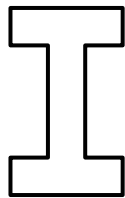
1. $204 - 65 =$ _____	2. $199 \times 3 =$ _____
3. Write down an odd number which lies between 39 and 43. _____	4. Round the price to the nearest euro .  € _____
5. What percentage fraction is shaded ?  _____ %	6. Draw the hands of the clock to show 9:35. 
7. Fill in: 3.5 m is _____ (smaller, larger) than 340 cm.	8. Fill in:  $\div 100 = 2.85$
9. The area of the square is 36 cm^2 . What is the length of one of its sides ?  _____ cm	10. Tick <input checked="" type="checkbox"/> the fraction that is equivalent to $\frac{24}{45}$. a) $\frac{8}{9}$ <input type="checkbox"/> b) $\frac{12}{15}$ <input type="checkbox"/> c) $\frac{8}{15}$ <input type="checkbox"/> d) $\frac{2}{3}$ <input type="checkbox"/>

11. a) Use your **ruler** to **measure** the length of these two pencils.

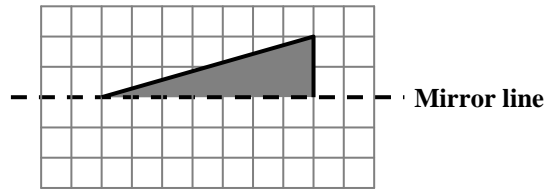


b) One pencil is _____ **cm longer** than the other.

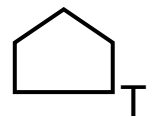
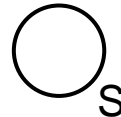
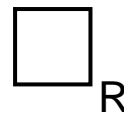
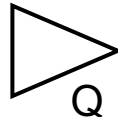
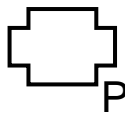
12. a) **Draw** the lines of symmetry.



b) **Complete** the reflection for this shape.



c) Look at these shapes:



Fill in:

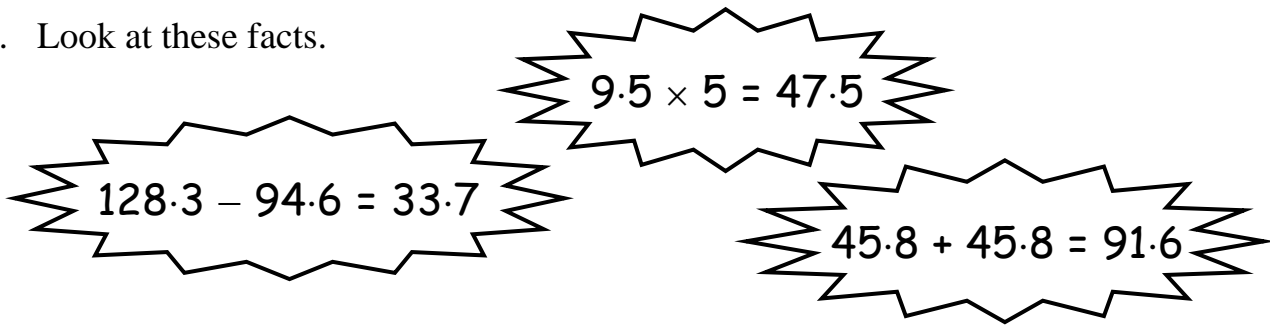
Shapes _____ and _____ have **only one line of symmetry**.

13. A cat eats 145 g of food each day.

How many **kilograms** of food does it eat in **one week**?

_____ **kg**

14. Look at these facts.



Use the above facts to complete the following:

- a) $94.6 + 33.7 = \underline{\hspace{2cm}}$
- b) **Half** of $91.6 = \underline{\hspace{2cm}}$
- c) **One fifth** of $47.5 = \underline{\hspace{2cm}}$
- d) $12830 - 9460 = \underline{\hspace{2cm}}$

15. The table shows five temperatures that Jenny recorded at school.

Monday	Tuesday	Wednesday	Thursday	Friday
22.4°C	24.5°C	24.6°C	19.7°C	21.3°C

Work out the **mean (average)** of the temperatures Jenny recorded.

 °C

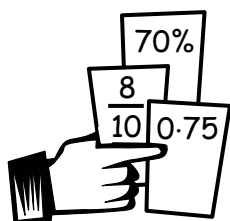
16. a) Fill in the missing numbers.

$$0.8 = \frac{\text{cloud}}{10} = \frac{80}{\text{cloud}}$$

b) Fill in the missing number.

$$70\% = \frac{\text{cloud}}{100}$$

c) Write these numbers in order, **largest to smallest**.



17. Stephen and Josephine go on a three-day hiking holiday.
Over the three days they cover a **total** distance of **40 km**.
On the first day they walk **17 km**.
On the second day they walk **half the distance** they cover on the **first day**.
Work out the distance Stephen and Josephine walk on the **third day**.

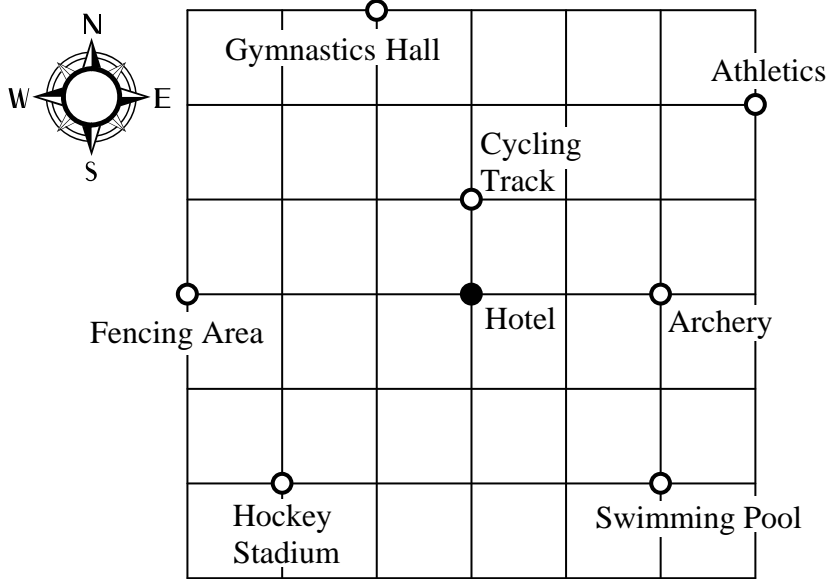
_____ **km**

18. A machine packs chocolate bars in bags.
Each bag contains 19 bars.
In one minute the machine packs **494 bars**.
Work out the **number of bags** the machine packs in **one minute**.

_____ **bags**

19. I think of a number and **double** it.
I then **subtract 7** from it.
I **divide** the result **by 3** and get **25** as the **final answer**.
What number did I think of?

20. The diagram shows a street plan of part of an Olympic Village.
 The **lines** forming the grid represent the **streets**.
 Each **side** of a square on the plan represents **150 m**.



Fill in:

- a) Bernard walks **along the streets** from the Hotel to the Swimming Pool.
 How long is the **shortest route**, in **metres**, he can take?

_____ **m**

- b) Kitty is at the Hotel. She is facing the Cycling Track.
 She **turns clockwise** to face the Fencing Area.
 Through how many **right angles** does she turn?

_____ **right angles**

- c) Manuel leaves the Hotel to go and watch Athletics.

He walks _____ **m East** and _____ **m North** to go and watch Athletics.

- d) Diane is at the Hotel. Use **distance** and **compass directions** to describe the **shortest path** she can take to go to the Gymnastics Hall.

21. a) Look at this sequence: 9, 13, 17, 21, _____, 29.

i) In the above sequence each number is **increasing** by _____.

ii) The missing number in the sequence is _____.

b) i) Write the next number in the sequence:

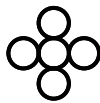
64, 49, 36, 25, _____

ii) The numbers in this sequence are called _____ numbers.

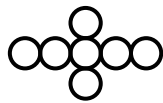
c) Look at these patterns:



Pattern 1

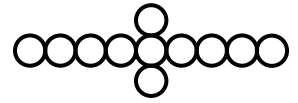


Pattern 2



Pattern 3

Pattern 4



Pattern 5

i) Draw **Pattern 4**.

ii) How many discs are needed to make **all the five patterns**? _____

22. a) Dad was in Pisa from 1st December 2008 to the last day of February 2009, **both days included**.

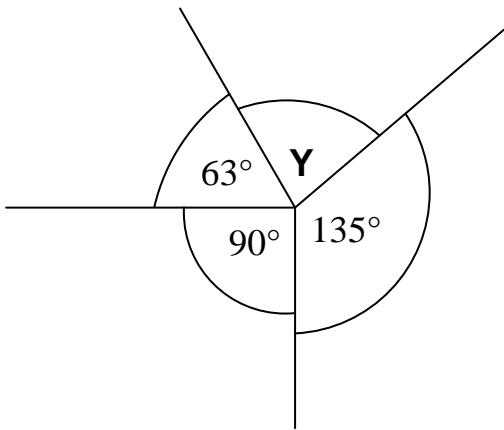
Dad was abroad for _____ **days**.

b) At 10:25 a.m. Frederick starts working on a jigsaw puzzle.

He takes 115 minutes to complete it.

At what time does Frederick finish the jigsaw puzzle?

23. a) i) Work out the value of angle **Y**.

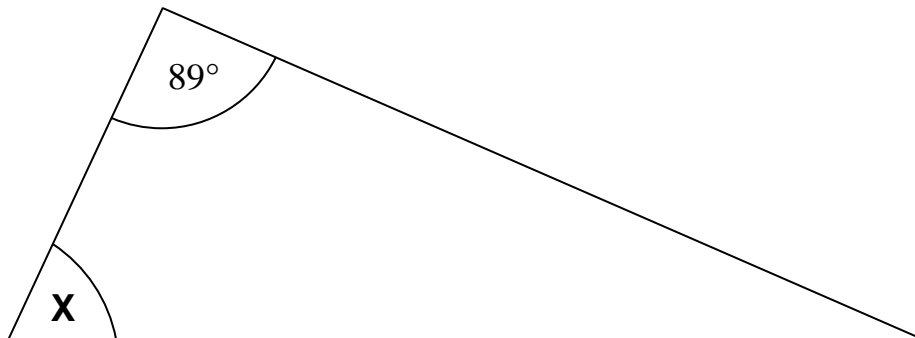


Y = _____^o

ii) Complete:

Angle **Y** is _____ (acute, right-angled, obtuse).

b) i) Use your protractor to measure angle **X**.



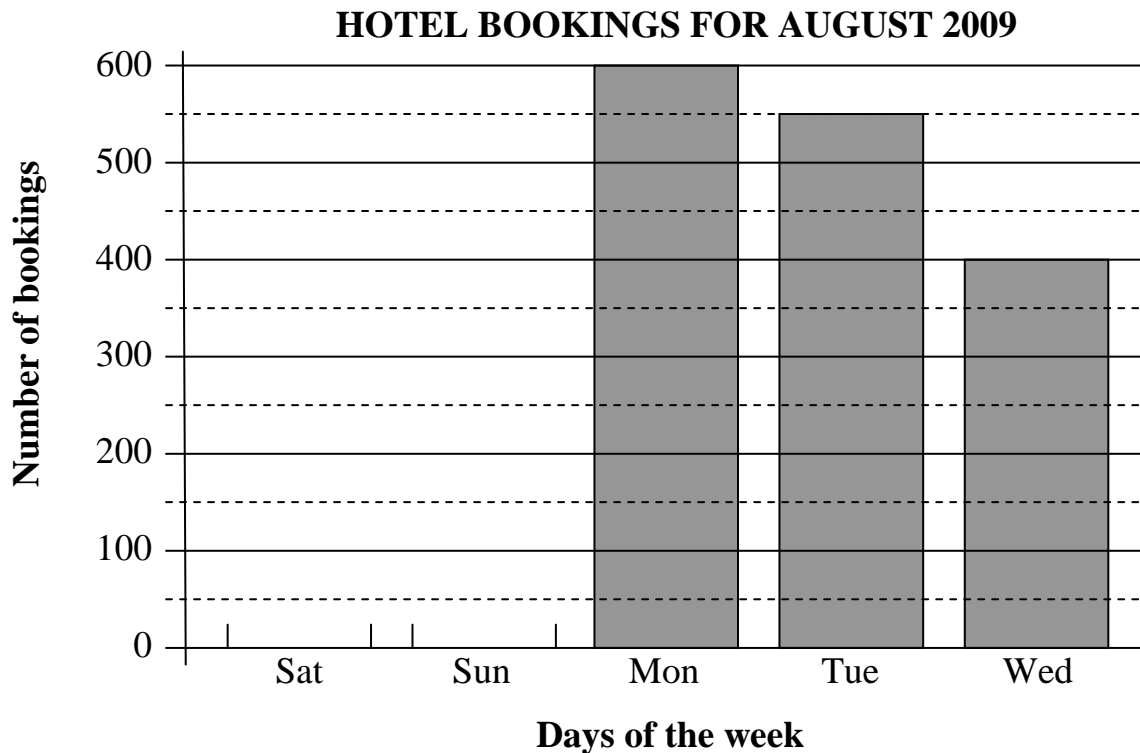
X = _____^o

ii) Complete:

The triangle is _____ (equilateral, isosceles, scalene)

because _____.

24. The graph and the table below show the number of bookings a hotel has for the first five days of August 2009.



Day	Bookings
Saturday	500
Sunday	450
Monday	600
Tuesday	
Wednesday	400
Total	

- a) Use **the table** to complete the graph for Saturday and Sunday.
- b) Use **the graph** to complete the table.
- c) Complete:

The number of bookings on Saturday is _____ % of the total number of bookings.

25. a) Change 2.5 **litres** into **millilitres**.

_____ ml

b) Patricia buys a 2.5 litre bottle of orange juice.

i) She drinks 40% of it.

How much orange juice does she drink?



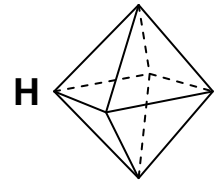
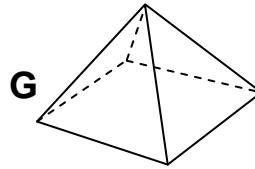
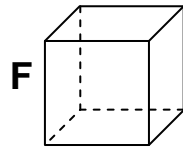
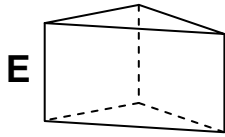
_____ ml

ii) Patricia gives **one tenth of what is left** to her brother Michael.

How many **millilitres** of orange juice does she give Michael?

_____ ml

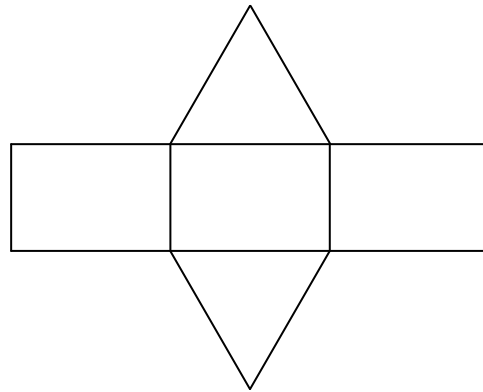
26. a) Look at these four solids.



Fill in:

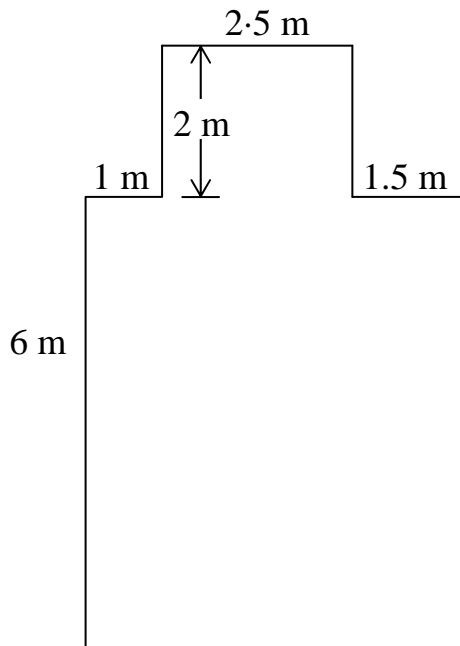
i) Solids _____ and _____ have an **equal number of edges**.

ii) This is the **net** of one of the solids shown above.



The net belongs to solid _____ (**E, F, G** or **H**).

b)



This is a plan of a sitting room.
Work out the **area** of the carpet needed to cover the room **completely**.






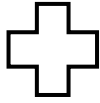




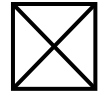

_____ **m²**

27. Each shape below **stands for a number**.

The numbers in each row and column are **added up**.

Some of the **totals** have been filled in.

Work out the **value of each shape** and fill in the **missing totals**.

			→	<u>25</u>			
			→	<u>12</u>		→	_____
			→	_____		→	_____
↓	↓	↓				→	_____
_____	_____	<u>22</u>					

28.

Explore

Petra gets a pony as an Easter present.

Her father makes a fenced section for the pony.

The fenced section:

- is rectangular;
- has each of its sides a **whole number** of metres;
- has an **area** of exactly 48 m^2 ;
- has the **smallest possible perimeter**.

Work out the **length** and the **width** of the fenced section.

Length: _____ **m**

Width: _____ **m**