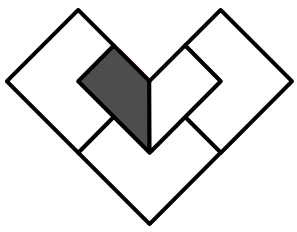
RESIT EXAMINATION - JULY 2010

Junior Lyceum Entrance Examination into Form One

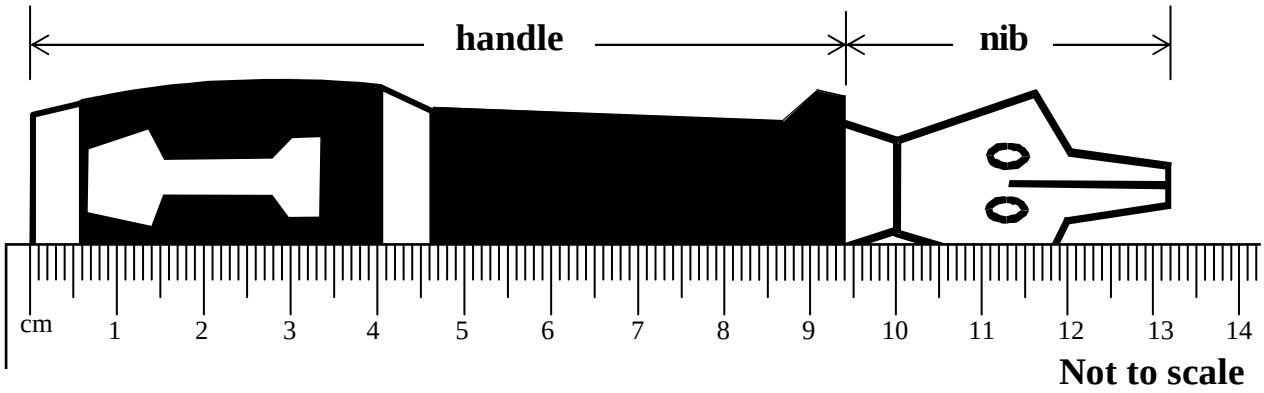
MATHEMATICS

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. 3005 + 2999 = _____	2. Write in **figures**: **three thousand four hundred and two**. _____
3. $5{\cdot}4 = 5{\cdot}9 - \square$	4. 1st January 2010 was a **Friday**. What **day** was 28th December 2009? _____
5. $\frac{5}{7} + \frac{\square}{\square} = 1$	6. 9 less than double 17 is $\square$.
7. Write a **decimal number** that is more than 12·4 and less than 12·5. _____	8. 4900 is the square of $\square$.
9. Tick ☑ the **best estimate** for 200 ÷ 39. 4 ☐ 5 ☐ 6 ☐ 7 ☐	10. What **fraction** of the diagram is shaded?  _____

11. *Do **not** use a ruler to answer this question.*



This is a picture of a pen.

a) Complete:

i. The **total length** of the pen is _____ cm.

ii. The length of the **handle** is _____ cm.

b) Work out the length of the **nib**.

_____ **cm**

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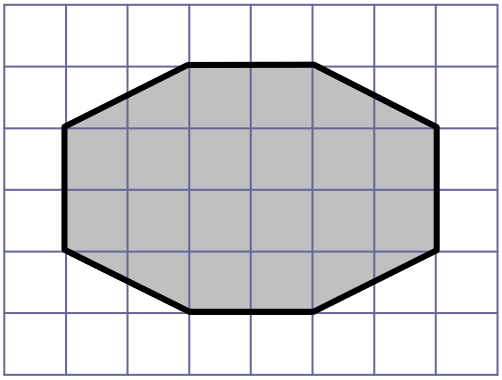
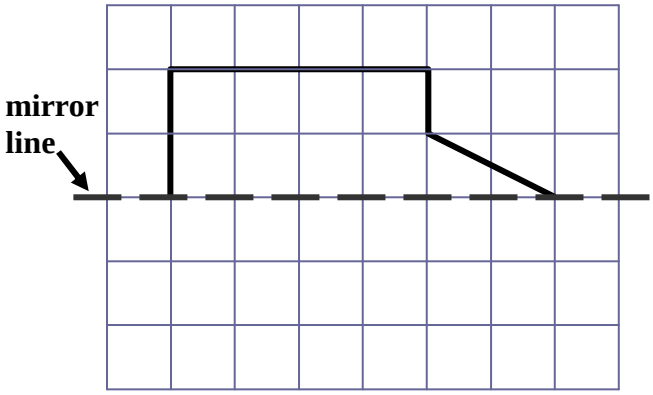
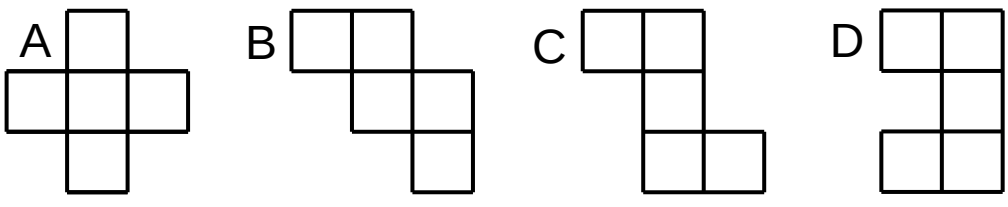
12. a) **Draw** the **lines of symmetry** of the shaded shape.



b) **Complete** the shape to make it **symmetrical** about the mirror line.



c) Look at these nets.
Which one does **not** make an **open cube**?



_____

13. The total weight of **eight identical bricks** is 17·2 kg.

a) Work out the weight of **one brick**.

_____ **kg**

b) Work out the weight of **5 such bricks**.

_____ **kg**

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14. a) What number am I?

I am half the sum of 468 and 300. ⇨ ☐

b) What number am I?

I am the difference between 500 and one fifth of 1000. ⇨ ☐

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15. Fill in with +, −, × or ÷ to make each statement true.

a) 26 weeks ☐ 26 weeks = 1 year

b) 350 m ☐ 5 = 1·75 km

c) 360° ☐ 3 right angles = 90°

d) €3 ☐ 25c = 12

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16. The **perimeter** of this rectangle is 37 metres.

Its **width** is 5·6 m.

Work out the **length** of the rectangle.

_____ **m**

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17. a) Look at these fraction cards.

$\frac{2}{3}$ $\frac{4}{9}$ $\frac{24}{32}$ $\frac{22}{32}$ $\frac{18}{24}$ $\frac{9}{16}$

Two of the above fractions are **equivalent**. Which are they?

____ ____

b) Write 0·75 as a **fraction**.

Give your answer in its **simplest form**.

$\frac{\square}{\square}$

c) Fill in:

$\frac{3}{4}$ of $\square$ = 36

18. The table shows the amount of water Joseph drinks in five days.

Monday	Tuesday	Wednesday	Thursday	Friday	**TOTAL**
1·6 ℓ	2·95 ℓ	2·4 ℓ		3·05 ℓ	**11.75 ℓ**

a) Work out the amount of water Joseph drinks on **Thursday**.

_____ ℓ

b) Work out the **average** (**mean**) amount of litres Joseph drinks each day.

_____ ℓ

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19. A television company charges 23c for every hour of ***Sports*** time.

Victoria paid €4.37 in June. For how many hours did she pay?

_____ **hours**

20. a) Complete these sequences.

i. $\frac{1}{3}$, $\frac{1}{6}$, $\frac{1}{12}$, $\frac{1}{24}$, $\frac{\square}{\square}$

ii. 100, 81, 64, 49, _____

iii. 1, 3, 9, 27, _____

iv. 6.51 pm, 6.55 pm, 6.59 pm, _____

b) Put in order, **smallest first**.

20·5 kg	2500 g	2005 g	2·505 kg
_____	_____	_____	_____

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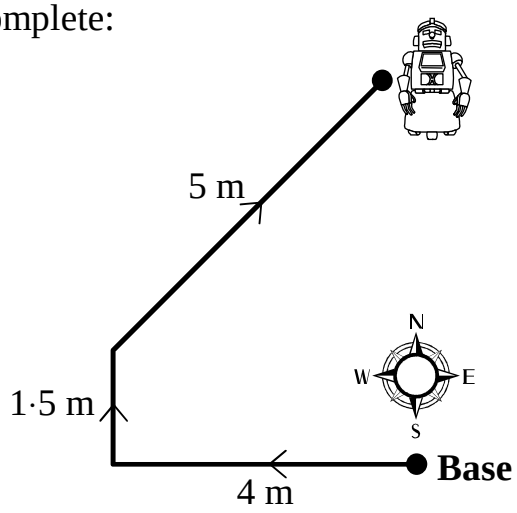
21. a) Robby the Robot starts at the **Base** and moves along the path shown in the diagram.
Use **distance** and **compass directions** to complete:

From the **Base**, Robby moves

_4_ m _West_,

_____ m _____,

_____ m _____.



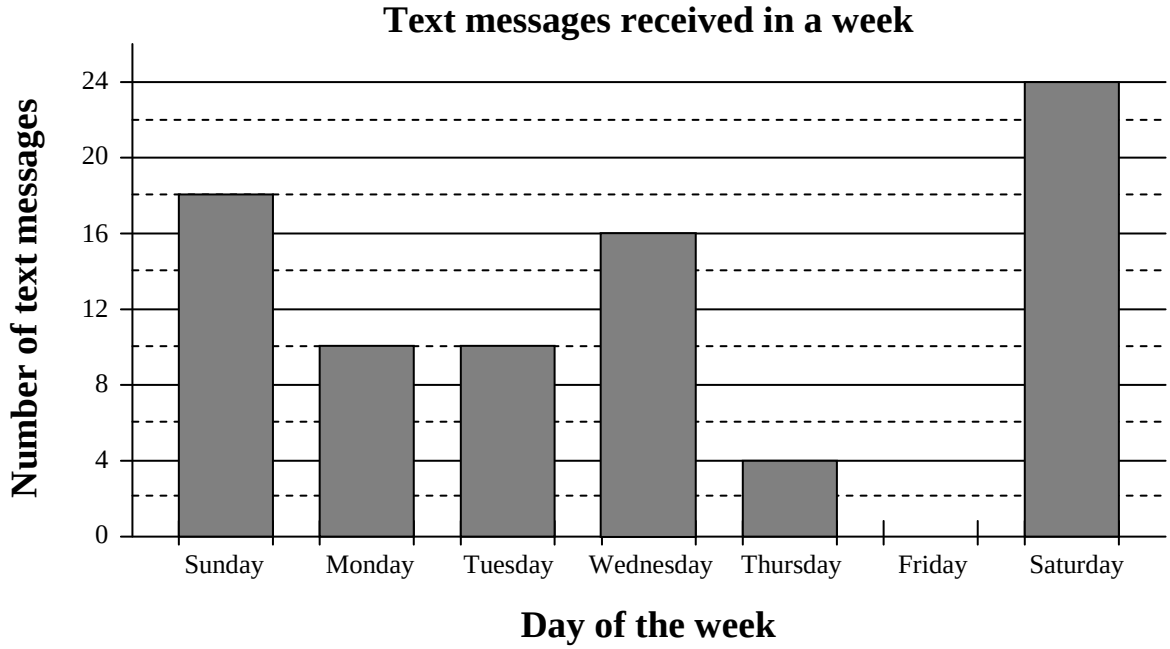
b) Robby wants to return to **Base along the same path**.
Use **distance** and **compass directions** to describe Robby's path back to **Base**.

_____

_____

_____.

22. The graph shows the number of text messages (sms) Tessie received in one week.



Tessie received a total of 96 text messages.

a) Work out the number of text messages she received on **Friday**.

_____ **text messages**

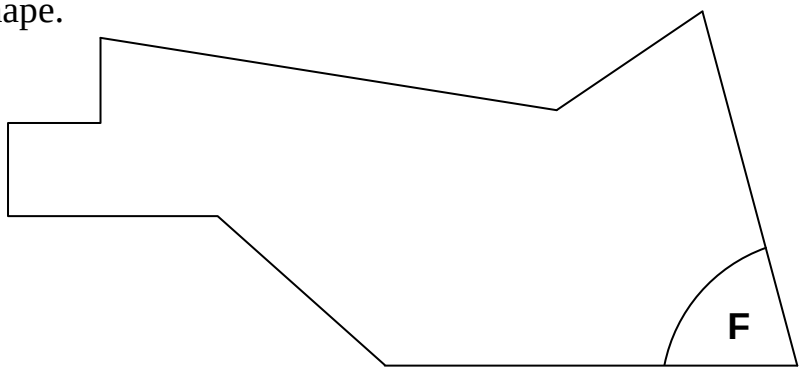
b) Use your answer to **complete the graph for Friday**.

c) Fill in:

Tessie received **less than 11** text messages on _____ (1, 2, 3, 4) days.

d) The number of text messages received on **Saturday** is _____ **%** of the total number of messages.

23. a) Look at this shape.



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i. Use your protractor to measure the angle marked **F**. Angle **F** = _____

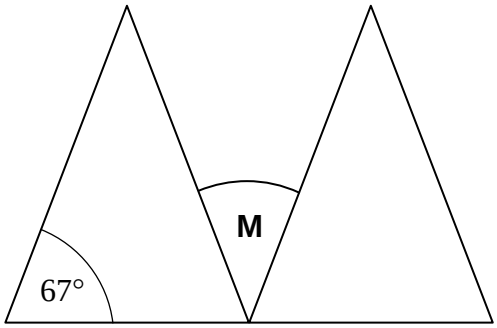
ii. On the shape mark **one obtuse angle** and name it **G**.

iii. Fill in:

The shape has _____ **slanting lines**.

b) The diagram shown below is made up of two **isosceles** triangles **of the same size**.

Work out the size of the angle marked **M**.



°

Angle **M** = _____

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24. A taxi driver charges €3.50 for the first kilometre and €2 for each additional kilometre.

Sam takes a taxi.

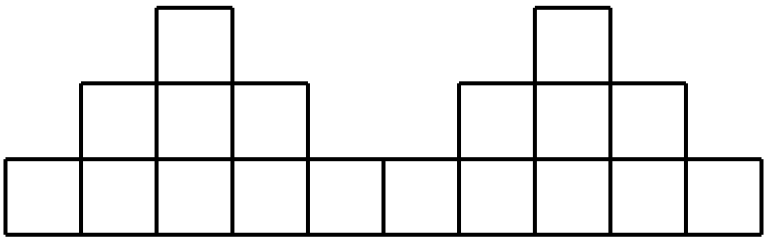
He pays €27. This includes a €2.50 tip.

How long is the journey?

_____ **km**

25. Kate arranged 18 small squares to make this shape.

Each square is of side 1 cm.

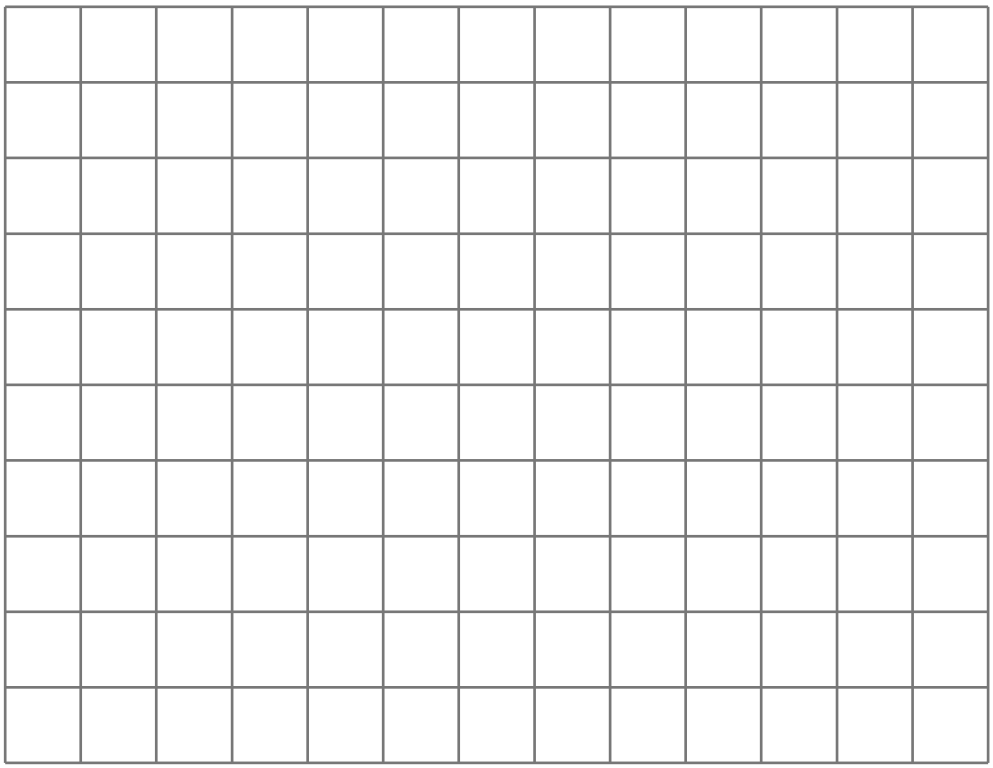


a) Work out the **total area** of Kate's shape.

_____ **cm^2**

b) i. Use the grid below to draw **two** rectangles, each of area 18 cm^2 **but** with **different side lengths**.

(Each square on the grid is of side 1 cm.)



ii. Work out the perimeter of **each** rectangle.

_____ **cm**

_____ **cm**

iii. What do you notice?

_____

_____

26. George and Brigitte work 7 hours a day in a hotel.
Each works for 6 days per week.

George is paid €58 a day.
Brigitte is paid €9 an hour.

a) Work out how much each is paid **every week**.

George is paid € _____

Brigitte is paid € _____

b) Fill in:

i. Who earns more, George or Brigitte? _____

ii. By how much? €_____.

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27. a) What **fraction** of an hour is 12 minutes?
(Give your answer in its **lowest terms**.)

_____

b) The Zahra family decided to go camping.
They left home at 08:15 and drove for 1 hour 22 minutes.
It took them 49 minutes to set up the tent.
At what time did they finish setting up the tent?

_____

28. **Explore**

A tiled wall has a coloured pattern repeated a number of times.

Each pattern is made up of **4 yellow tiles** and **10 green tiles**.

On this wall, altogether, there are 36 **more green** than **yellow tiles**.

Work out the number of yellow and green tiles.

Yellow tiles: _____

Green tiles: _____

END OF PAPER