JUNIOR LYCEUM ANNUAL EXAMINATIONS 2006

Educational Assessment Unit - Education Division

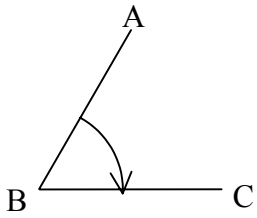
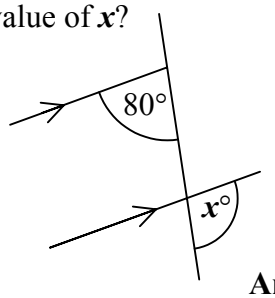
FORM 1	MATHEMATICS (MENTAL)	TIME: 10 minutes

Name: _____ Class: _____

Mark

INSTRUCTIONS TO CANDIDATES

- **Answer all questions. There are 10 questions to answer.**
- **Each question carries 1 mark.**
- **Calculators and protractors are not allowed.**
- **You are not required to show your working. However space for working is provided if you need it.**

	QUESTION	SPACE FOR WORKING IF REQUIRED
1.	∠ABC is about:  (a) 20° (b) 60° (c) 80° **Answer:**_____	
2.	Work out the value of $w^2 + 5y$, when $w = -3$ and $y = 4$. **Answer:**_____	
3.	The ages of the children in a chess club are: 10, 6, 9, 7, 8, 9, 7, 8 What is the range of their ages? **Answer:**_____	
4.	7 people want to share Lm91 equally among themselves. How much money does each get? **Answer: Lm**_____	
5.	What is the difference between 0.5 and $\frac{7}{10}$? **Answer:**_____	
6.	What is the value of ***x***?  **Answer:**_____ °	

	QUESTION	SPACE FOR WORKING IF REQUIRED
7.	Write **YES** or **NO**. Can a triangle contain one right angle, one acute angle and one obtuse angle? **Answer:**_____	
8.	Fill in the missing number **7.0, _____, 6.0, 5.5, 5.0**	
9.	Work out the value of: $(8-3)\times 2+3$ **Answer:**_____	
10.	Arrange in order of size, largest first: **5.43, 0.543, 54.3, 0.0543** **Answer:**_____	

END OF PAPER

JUNIOR LYCEUM ANNUAL EXAMINATIONS 2006

Educational Assessment Unit - Education Division

FORM 1 **MATHEMATICS (Main Paper)** **TIME: 1 h 50 min**

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Mental	**Global Mark**
Mark																		

DO NOT WRITE ABOVE THIS LINE

Name: _____ Class: _____

CALCULATORS ARE NOT ALLOWED

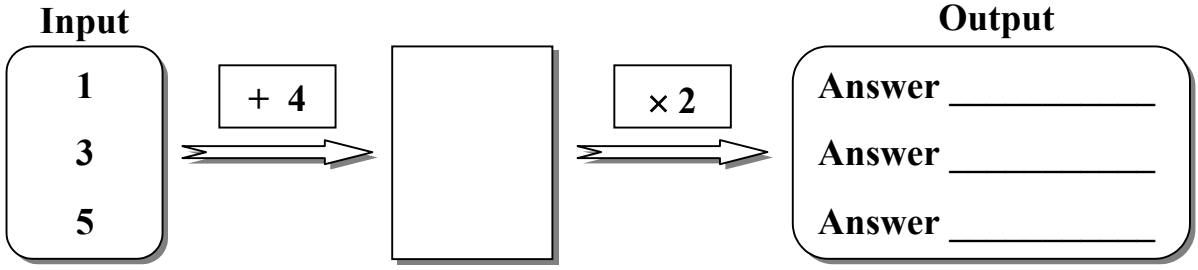
ANSWER ALL QUESTIONS.

1. **Round** each number to the nearest 10 and work out the estimated answer:
(The first one is done for you.)

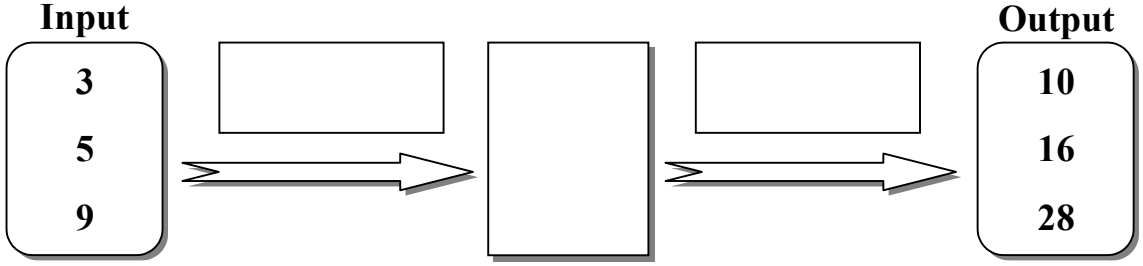
	Problem	**Nearest 10**	**Estimated Answer**
(a)	$22 \times 66 \div 12$	$20 \times 70 \div 10$	140
(b)	$58 + 99 - 71$	_____	_____
(c)	$67 + 11 \times 21$	_____	_____

(4 marks)

2. (a) What are the **outputs** for these three inputs?

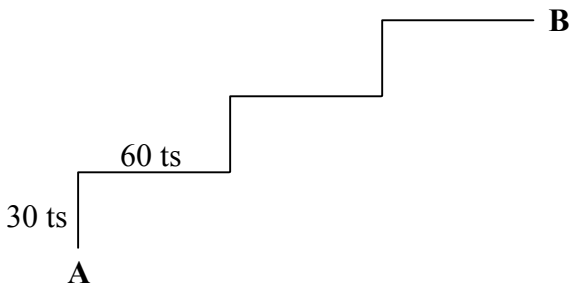


(b) Fill in the empty boxes so that the **function machine** gives these outputs.



(4 marks)

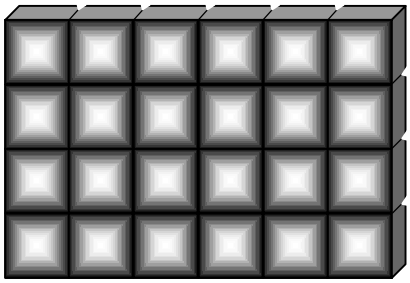
3. The diagram below shows a flight of three **equal** steps.
Complete the **LOGO** commands below that will take the turtle from **A** to **B**:



PD
REPEAT _____ [FD 30 RT _____ FD _____ _____ 90]

(4 marks)

4. Norbert has a bar of chocolate.
The bar of chocolate is divided into **24 squares**.



He eats $\frac{1}{4}$ of it and gives 4 squares to Mandy.

(a) How many squares has he **left**?

Answer _____ squares

(b) After the lunch break he eats $\frac{1}{7}$ **of the remainder** and gives another 4 squares to Pauline.

How many squares has he **left**?

Answer _____ squares

(c) What **fraction** of the original whole bar of chocolate has he left?

Answer _____

(4 marks)

5. (a) A packet of rice weighs **470 g**.

Work out the weight of **9 similar packets**. Give the answer in kilograms.

Answer _____ kg

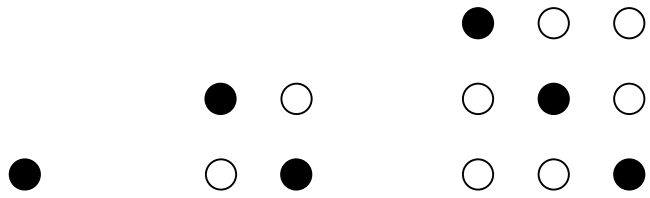
(b) The cost of the nine packets of rice is **Lm3.15**.

What is the cost of **10 similar packets**?

Answer Lm _____

(4 marks)

6. (a) **Draw** the 4th pattern.



1st pattern 2nd pattern 3rd pattern 4th pattern

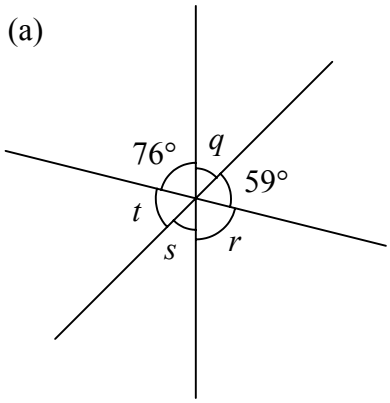
(b) **Fill in** the table:

	1st pattern	2nd pattern	3rd pattern	4th pattern	10th pattern
All Dots		4			
Black Dots		2			
White Dots		2			

(6 marks)

7. **Work out** the size of the angles marked by a letter:

(a)



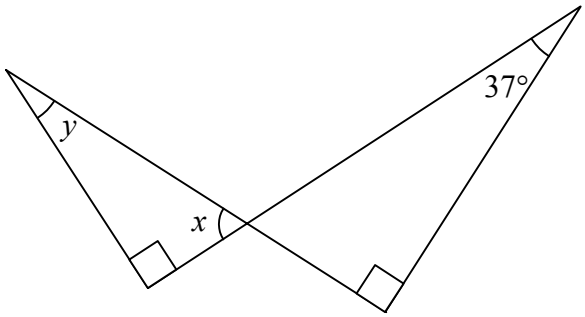
Answer *q* = _____

Answer *r* = _____

Answer *s* = _____

Answer *t* = _____

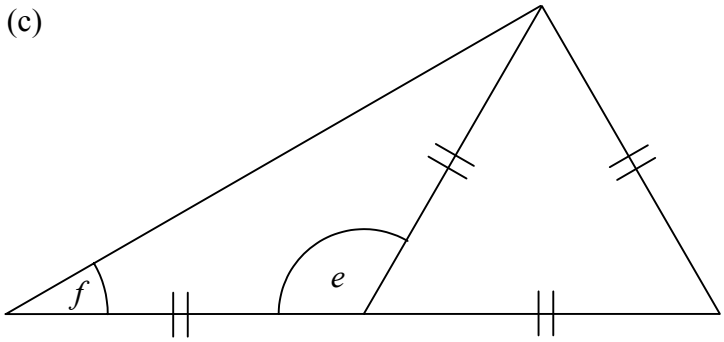
(b)



Answer *x* = _____

Answer *y* = _____

(c)



Answer *e* = _____

Answer *f* = _____

(6 marks)

8. (a) In Rachel's class there is a Points System:
the pupils get: **1 point** for arriving early at school,
0 points for arriving just in time
and **–2 points** for arriving late.

Rachel is: **late** on Monday,
just in time on Tuesday and Wednesday
and is **early** on Thursday and Friday.

How many points does she have at the end of the week?

Answer _____ points

8. (b) Robert has **20 books**.

(i) He **reads 50%** of his books at home.
How many books has he read at home?

Answer _____ books

(ii) Robert **read 10%** of his books while on his holiday.
How many books did he read while on holiday?

Answer _____ books

(iii) What percentage of his books has he **not yet read**?

Answer _____ %

(6 marks)

9.

11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**

Using the numbers above, list:

(a) all the **prime** numbers:

Answer _____

(b) all the **multiples** of 6:

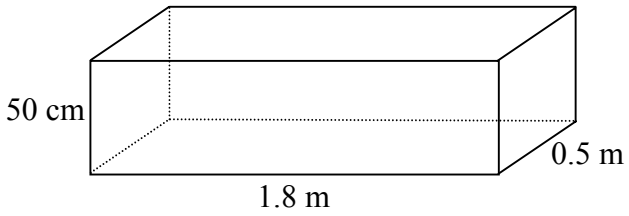
Answer _____

(c) all the **factors** of 30:

Answer _____

(6 marks)

10. A rectangular tank is 1.8 m long, 0.5 m wide and 50 cm high.



(a) What is the total volume of water that can be stored in the tank? Give your answer in **litres**.

Answer _____ litres

(b) The tank is $\frac{2}{9}$ full of water.
How many litres of **water** are in the tank?

Answer _____ litres

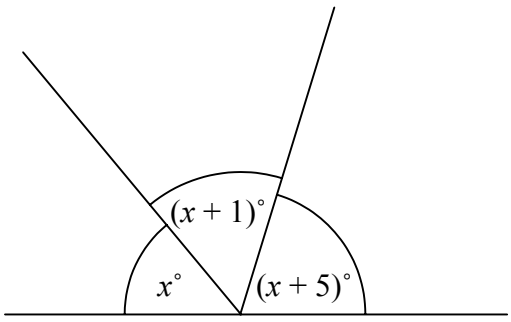
(c) How many $2\frac{1}{2}$ litre **bottles** can be filled from this amount of water in the tank?

Answer _____ bottles

(6 marks)

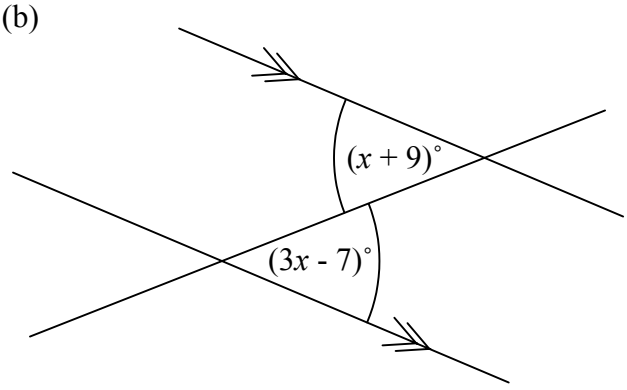
11. Write down an **equation** for each diagram and then **solve** for x:

(a)



Answer *x* = _____

(b)



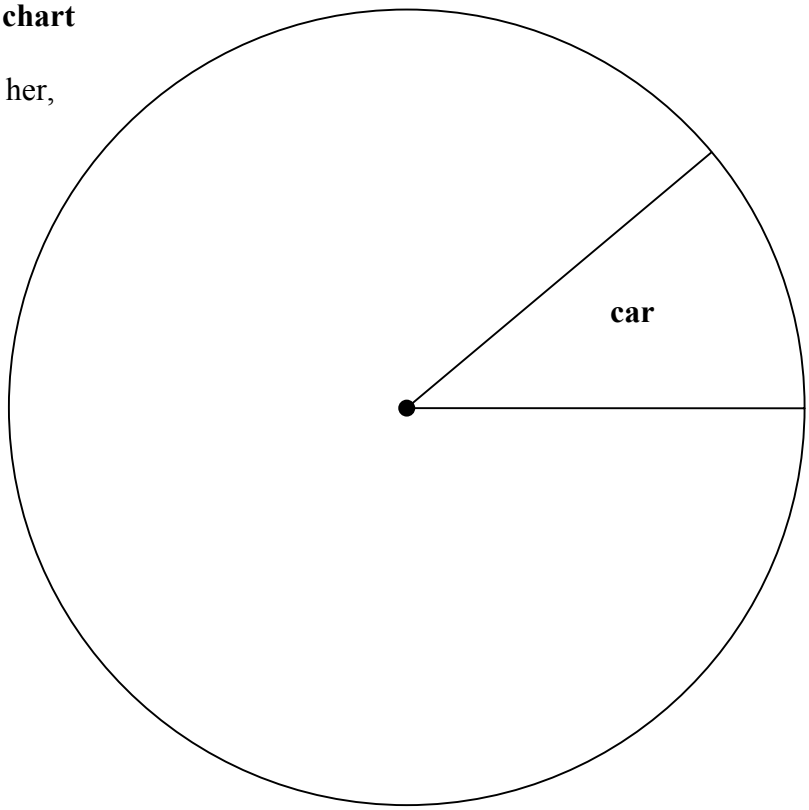
Answer *x* = _____

(8 marks)

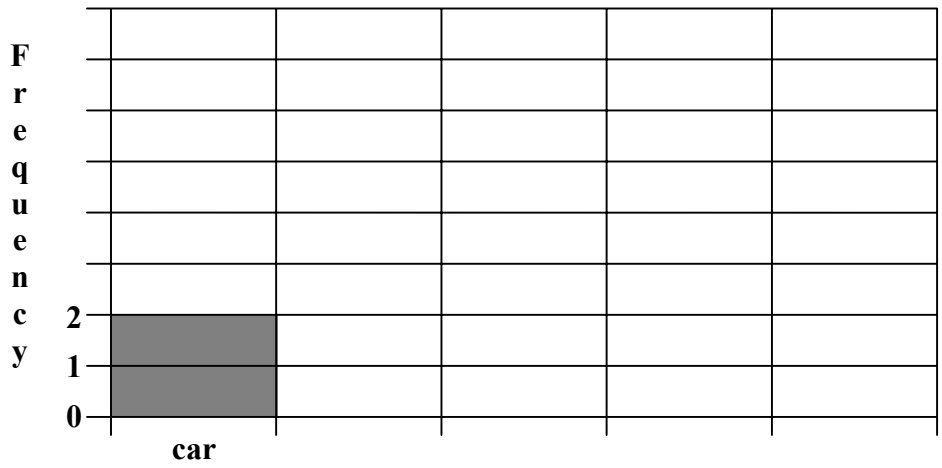
12. Here are the results of Ruth and Daniel's survey on how the **18 children** in their class come to school:

Means of Transport	Car	School Bus	Public Transport	Bike	Walk
Frequency	2	7	2	3	4

(a) Ruth started drawing a **pie chart** of the survey results.
Complete the pie chart for her, and label it.



(b) Daniel started drawing a **bar chart** to represent the same survey.
Complete the bar chart for him.

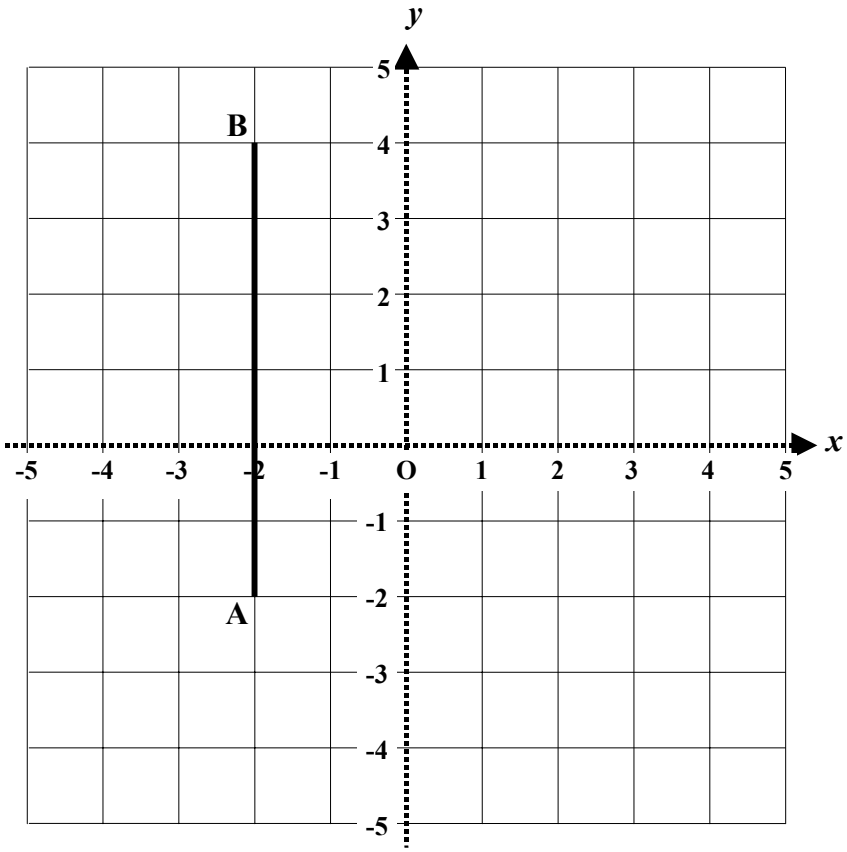


(c) How many children do you think lived **very near** to the school? Why do you think so?

Answer: _____children because _____.

(8 marks)

13.



(a) **Plot** the point **C** (0, 1).

(b) **Join A** to **C** and **B** to **C**.

(c) **Triangle ABC** is ____ _____ triangle.

(*an equilateral, an isosceles, a scalene, a right-angled)*

(d) Complete the shape so that the *y*-axis is its **line of symmetry**.

(e) The whole shape formed has **rotational symmetry** of order _____.

(f) Find the mid-point of **AB** and label it **X.**

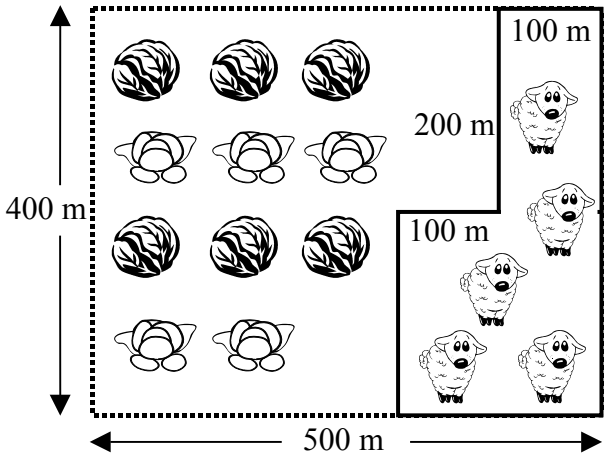
The co-ordinates of **X** are (,).

(8 marks)

14. Samuel, the farmer, has a field.

The **field** is in the shape of a **rectangle**, 500 m long and 400 m wide.

He puts up a fence all around a **sheep pen** in the field as shown in the diagram.



(a) How many metres of **fence** does Samuel use to enclose the sheep pen?

Answer _____ **m**

(b) What is the area of the **whole field**?

Answer _____ **m^2**

(c) What is the area of the **sheep pen**?

Answer _____ **m^2**

(d) Samuel plants vegetables in the **rest of the field**.

What is the area of the land where Samuel plants his vegetables?

Answer _____ **m^2**

(e) Express this area where Samuel planted his vegetables as a **percentage** of the whole field.

Answer _____ **%**

(8 marks)

15. (a) Carmen **begins** to read a story at 11:35 a.m. She **stops** reading at 1:15 p.m.
She takes 5 minutes to read a page.

How many pages does she read?

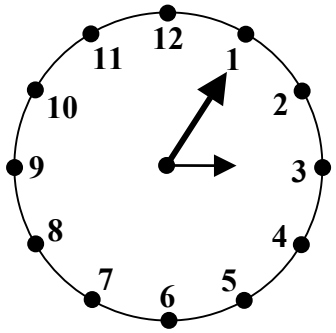
Answer _____ pages

(b) One day Josephine **left** home at 09:25 to visit her sister.
She **arrived** back home at 13:15.

How long was she out of her home?

Answer _____hours _____ minutes

(c) **Look** at the following clock.



Write down the possible times in the **24-hour** clock *(two answers).*

Answer _____ or _____

(8 marks)

END OF PAPER