S31

FOR THE EXAMINER

EXAM. NUMBER:

Total Marks

Coimisiún na Scrúduithe Stáit
State Examinations Commission

JUNIOR CERTIFICATE EXAMINATION, 2003

MATHEMATICS – FOUNDATION LEVEL – (300 marks)

THURSDAY, 5 JUNE - MORNING, 9.30 TO 11.30

Time: 2 hours

Attempt **ALL** questions. Each question carries 50 marks.

Answers and supporting work should be written into the boxes provided.

Extra pages and graph paper can be obtained from the Superintendent, if needed.

The symbol ✍ indicates that supporting work must be shown to obtain full marks.

Make and model of calculator used:

For the Superintendent/Examiner use only:

Centre Stamp

Question	Mark
1	
2	
3	
4	
5	
6	
Total	
Grade	

1. **(a)**

(i) $34 + 26 =$

(ii) $34 \times 26 =$

(b)

(i) Which of the numbers 4286 or 4826 is greater?

(ii) Write down the greatest four-digit number that can be made using all the digits 4, 2, 8, 6.

(c) **(i)** Find the total cost of

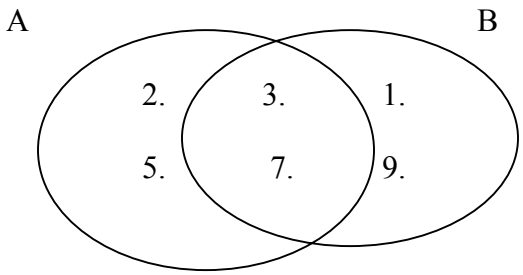
One bus ticket	@	€8·00
One C.D.	@	€13·50
Two concert tickets	@	€15·60 each
Two tee shirts	@	€8·50 each

Bus ticket:	€8·00 × 1	=	
C.D.:	€13·50 × 1	=	
Tickets:	€15·60 × 2	=	
Tee shirts:	€8·50 × 2	=	
			_____
	Total	=	

Part (c) continues on next page

(c) **(ii)** I pay with four €20 notes. How much change do I get?

2. **(a)**



(i) A = { , , , }

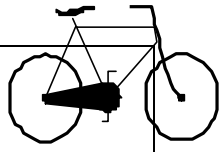
(ii) A ∩ B = { , }

(b) **(i)** Without using a calculator, write $\frac{1}{4} + \frac{2}{5}$ as a single fraction.

(ii) Write $\frac{4}{7}$ as a decimal, correct to two decimal places.

Part (c) on next page

(c) I bought an old bicycle for €40. I spent €10 fixing it. I sold the bicycle for €70.



✍ **(i)** Calculate the total amount of money I spent.

✍ **(ii)** Calculate the profit I made when I sold the bicycle.

✍ **(iii)** Express the profit I made as a percentage of the total amount I spent.

3. **(a)** A prize of €72 is shared equally between 6 people. How much does each person get?

(b) The number of goals scored by each of 20 teams is shown below:

2	4	1	0	3
3	2	0	3	3
3	2	2	1	2
1	3	2	0	3

(i) Complete the table below:

Goals scored	0	1	2	3	4
Number of teams		3			

(ii) Find the mean score per team.

Part (b) continues on next page

(iii) What fraction of the teams scored exactly two goals?

(c) 60 people were asked what colour of car they had. 35 said red, 20 said blue and the rest said green.

Draw a pie chart to show this information.

4. **(a)** I set off for school at 07:54. It took me 45 minutes to get there. At what time did I arrive at school?

(b) A car travels 150 km in 2·5 hours.

(i) Find the average speed of the car in km/hr.

(ii) How far does the car travel in 5 hours at that speed?

Part (c) on next page

(c) The radius of a circle is 3 cm.

(i) Write down the length of the diameter.

(ii) Find the length of the perimeter of the circle, taking $\pi = 3{\cdot}142$.

5. **(a)** Find the value of $3x + 2$ when $x = 4$.

(b) **(i)** Solve for x:

$$x + 5 = 12$$

(ii) Solve for x:

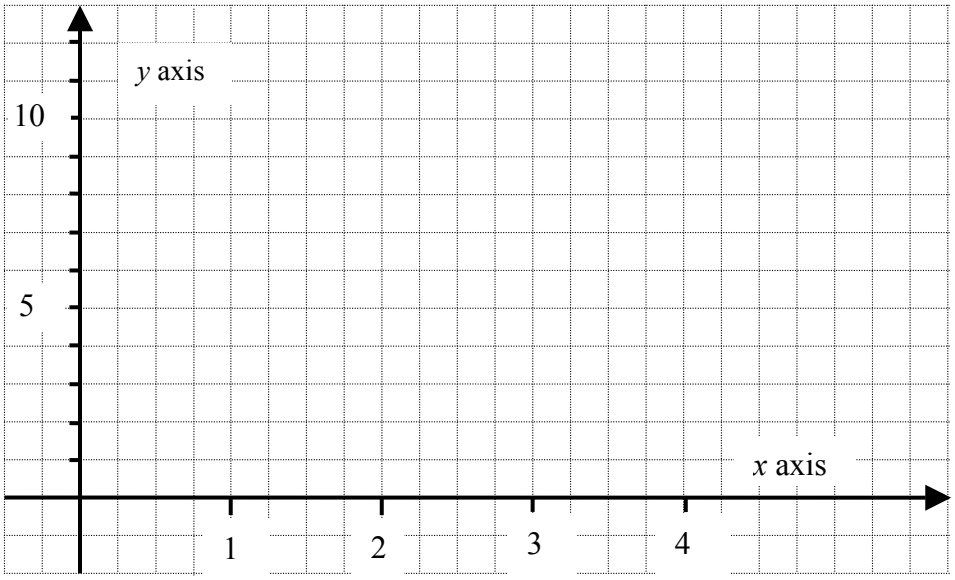
$$3(x - 1) = 9$$

Part (c) on next page

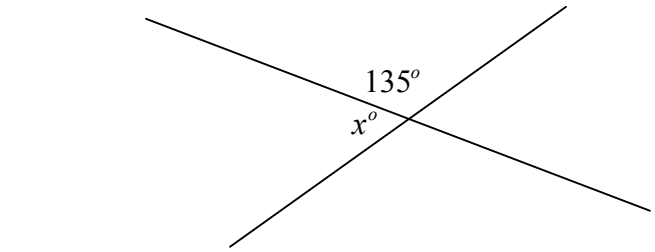
(c) **(i)** Given that $y = 2x - 1$, complete the table below:

x	1	2	3	4
y			5	

(ii) Draw the graph of $y = 2x - 1$ from $x = 1$ to $x = 4$.

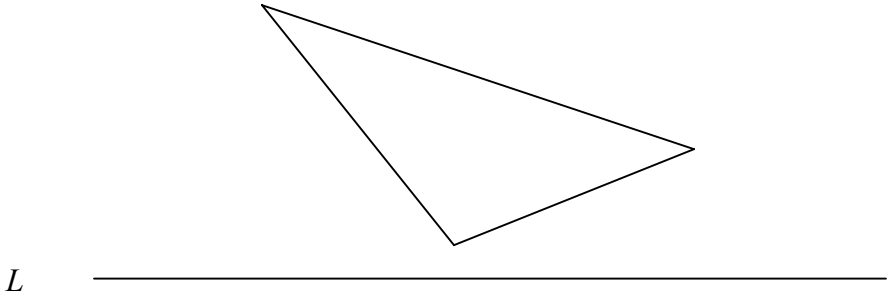


6. **(a)** Calculate the value of x in the diagram.



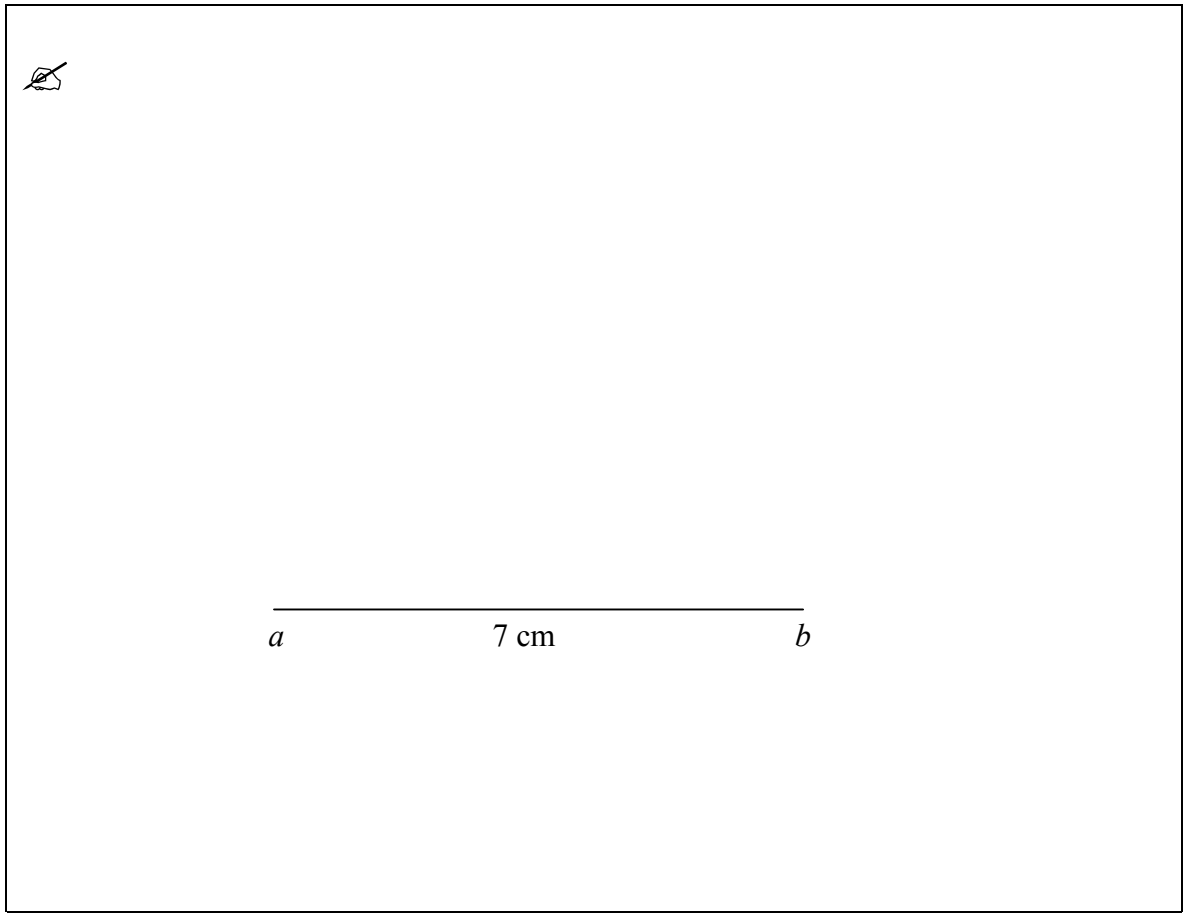
$x =$

(b) Construct the image of the triangle under the axial symmetry in the line L.



Part (c) on next page

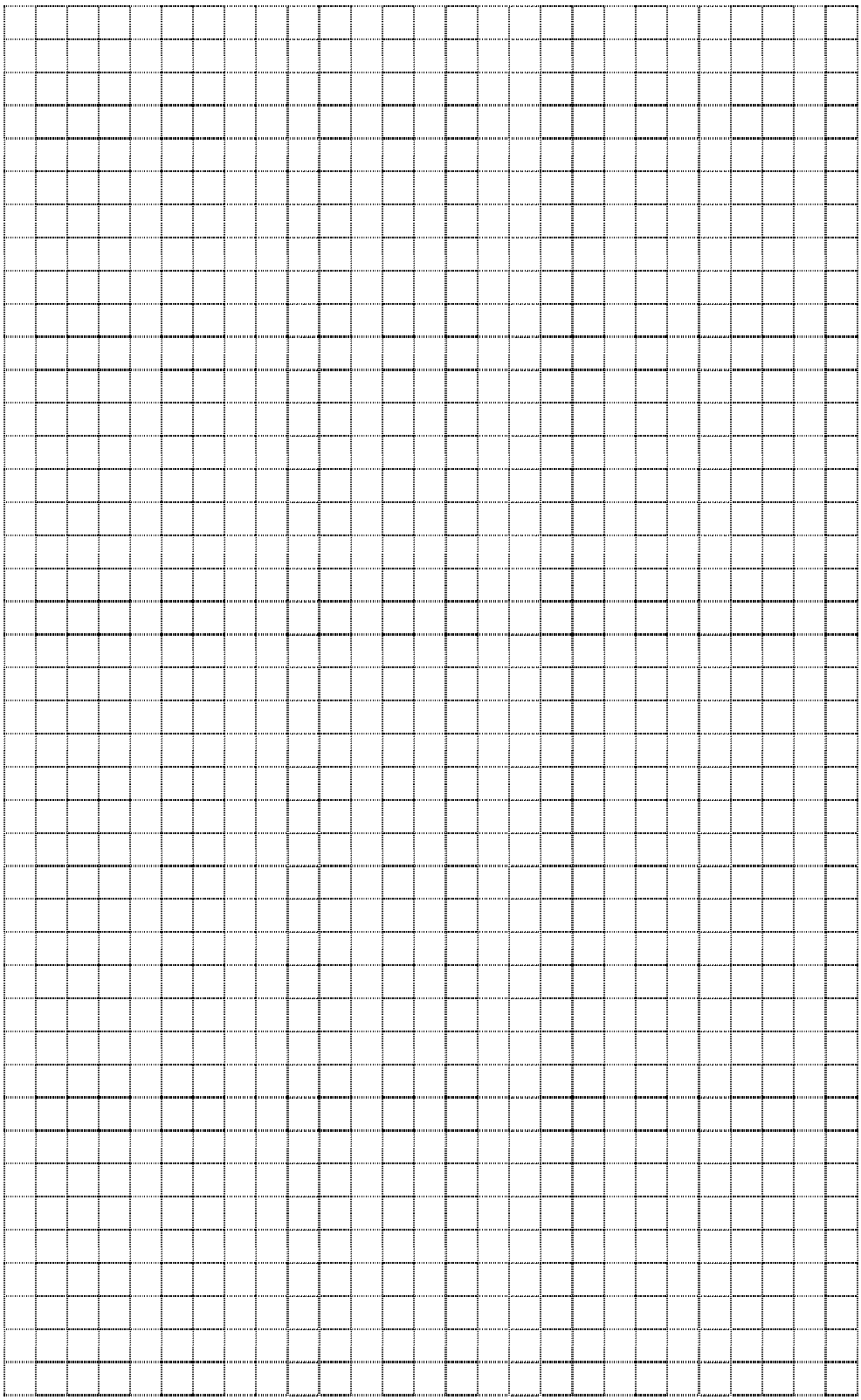
(c) **(i)** Construct the triangle abc with $|ab| = 7$ cm, $|ac| = 5$ cm and $|\angle bac| = 60^o$.



(ii) Measure the length of the side $[bc]$.

Length of $[bc]$ =

Space for extra work



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