

FOR THE EXAMINER

EXAM. NUMBER:

Total
Marks


Coimisiún na Scrúduithe Stáit State Examinations Commission

JUNIOR CERTIFICATE EXAMINATION, 2007

MATHEMATICS – FOUNDATION LEVEL – (300 marks)

THURSDAY, 7 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) $45 + 76 =$

(ii) $86 - 21 =$

(b)

(i) Write out the next two multiples of 3.

Answer: 3, 6, _____, _____

(ii) Write out the next two multiples of 4.

Answer: 4, 8, _____, _____

(iii) Find the lowest common multiple of 3 and 4.

Answer: _____

(c)

(i) Write 34.8 correct to the nearest whole number.

Answer: _____

(ii) Write 5.4 correct to the nearest whole number.

Answer: _____

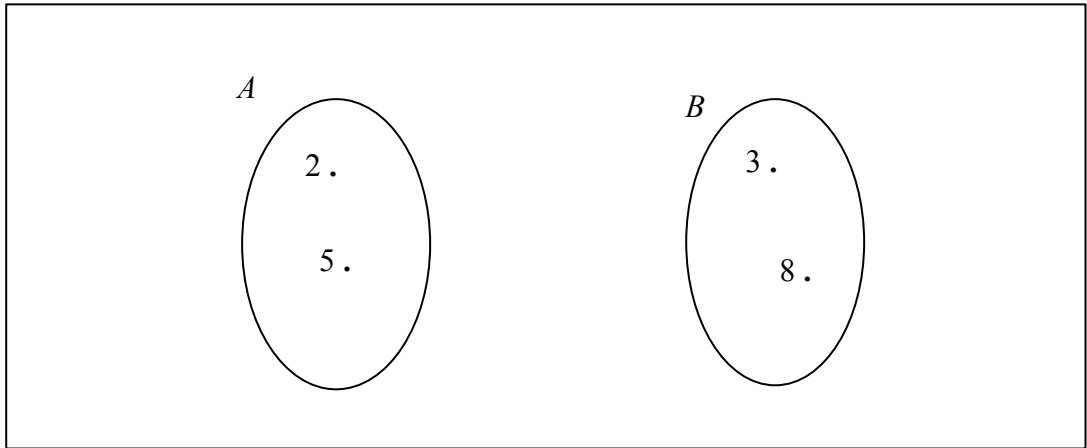
(iii) Use these answers to estimate the value of $\frac{34.8}{5.4}$.

Estimate: _____

(iv) Find the value of $\frac{34.8}{5.4}$, correct to one place of decimals.

Answer: _____

2. (a) Draw arrows from set A to set B to show the relation 'is less than'.



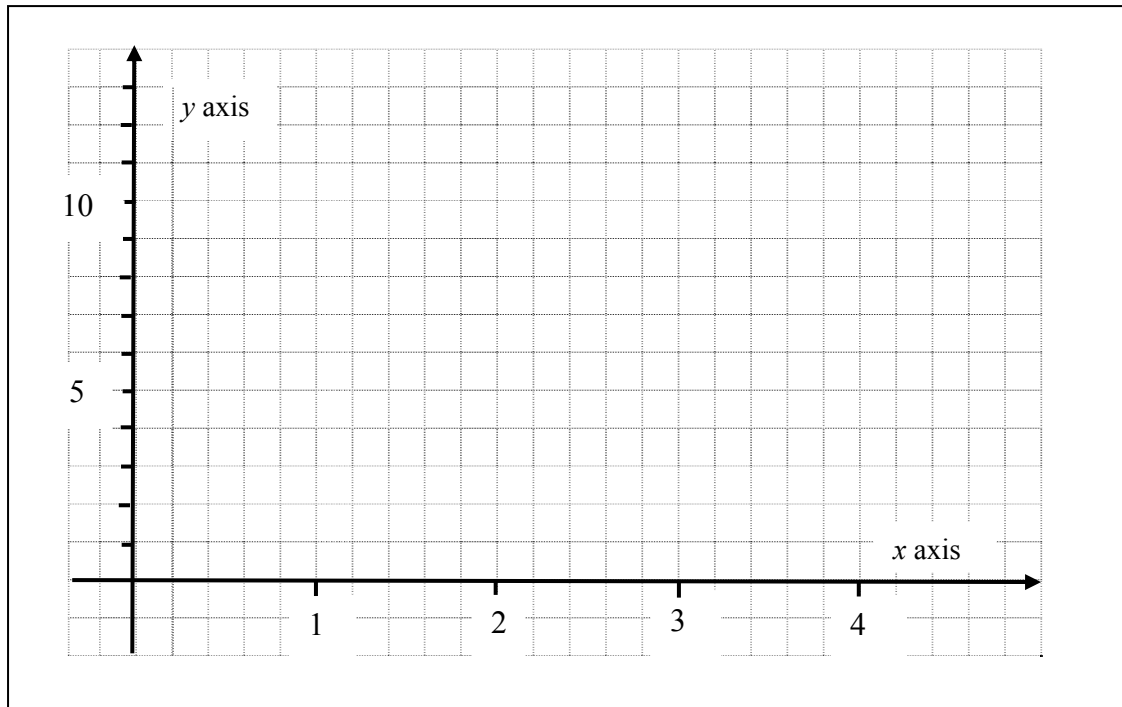
- (b) (i) Given that $y = 3x + 1$, complete the table below:

x	1	2	3	4
y				

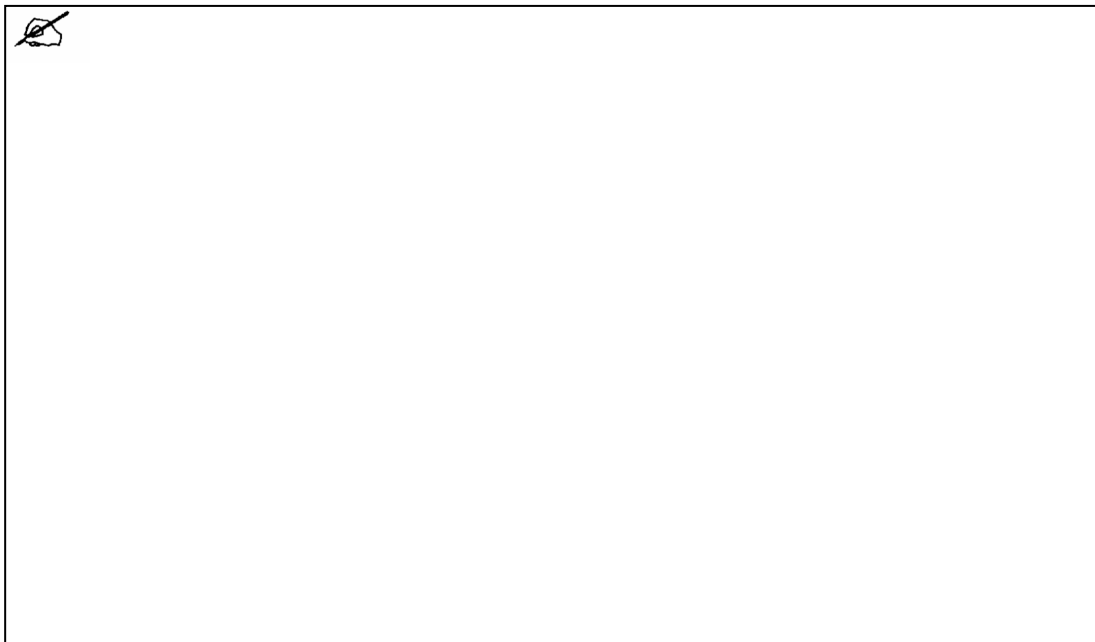


Part (b) continues on next page

- (ii) Using your answers from (i), draw the graph of $y = 3x + 1$ from $x = 1$ to $x = 4$.



- (c) (i) Find the value of $x^2 + 3x + 4$ when $x = 5$.

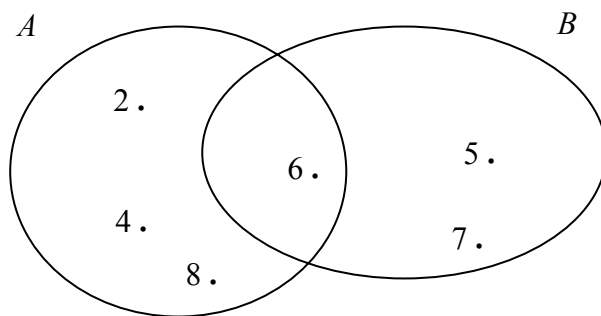


(ii) Solve for x :



$$2(3x - 5) = 50$$

3. (a)



(i) $A = \{ \quad , \quad , \quad , \quad \}$

(ii) $A \cap B = \{ \quad \}$

- (b) (i) Write 0.25 as a fraction.

- (ii) Without using a calculator, write $\frac{1}{5} + \frac{3}{4}$ as a single fraction.



- (c) Anne bought five CDs at a cost of € 10.00 each.




- (i) How much did Anne spend on the five CDs?

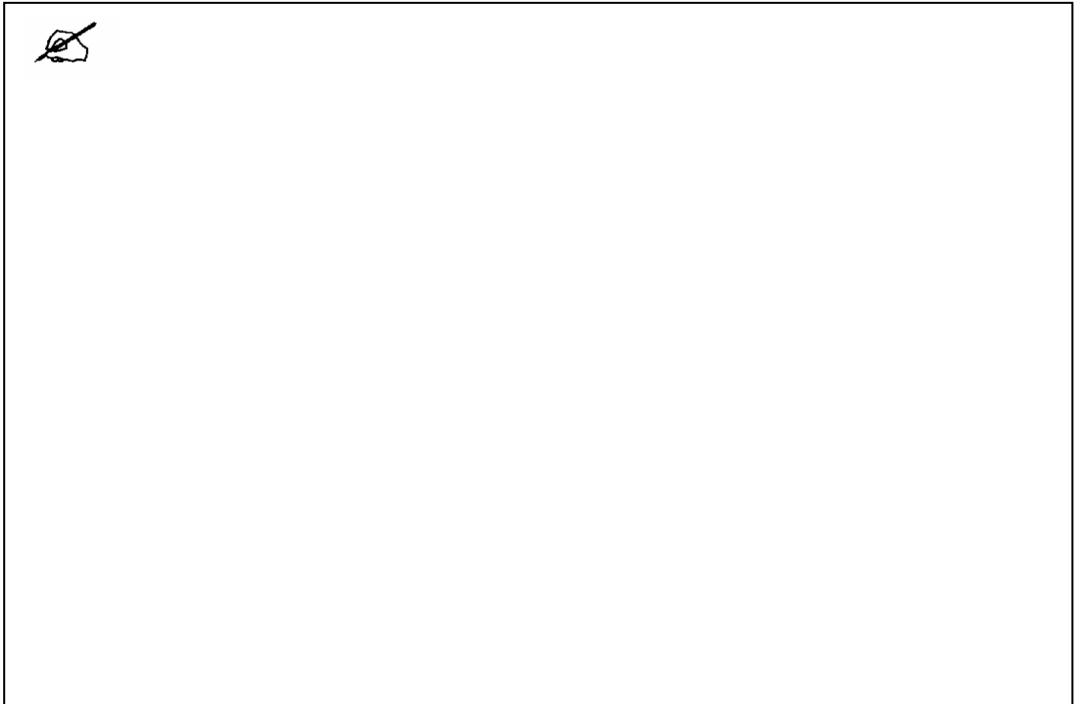


She sold the five CDs for € 59.00 .

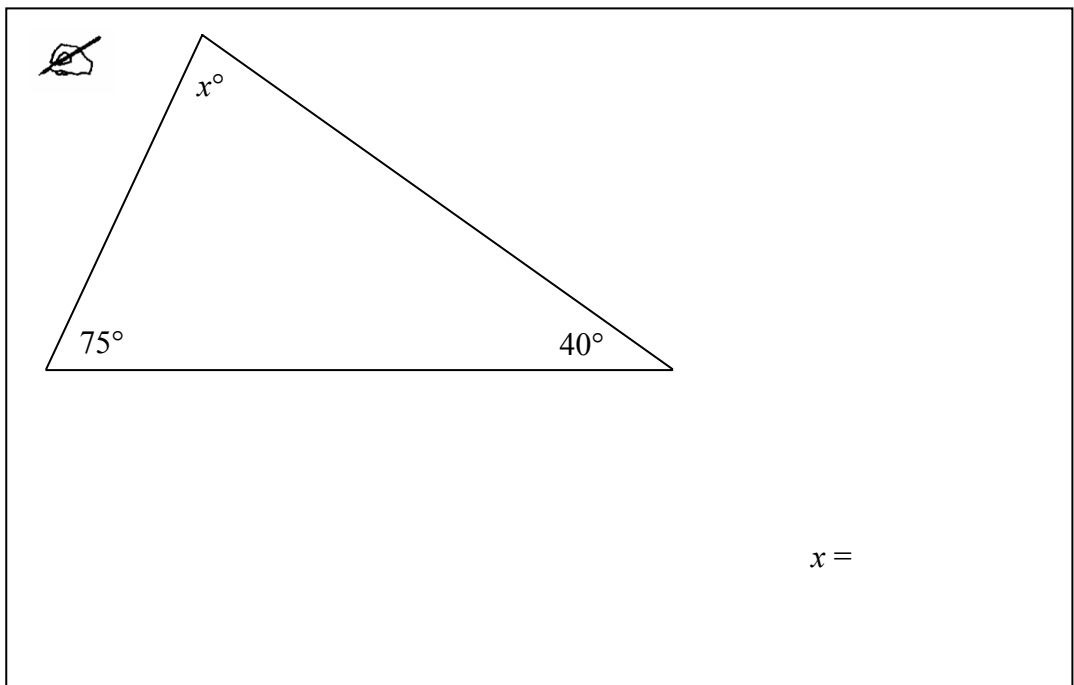
- (ii) How much profit did she make?



(iii) Express the profit Anne made as a percentage of the total amount she spent.

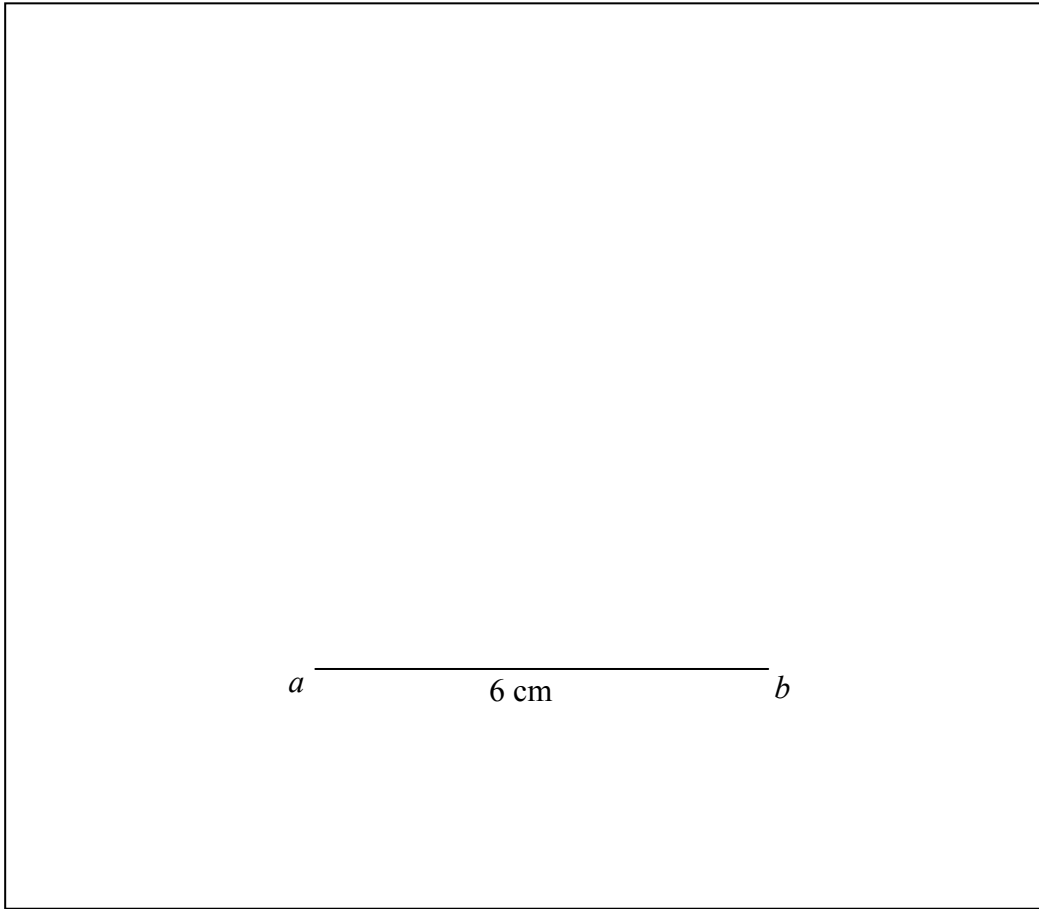


4. (a) Calculate the value of x in the triangle below.

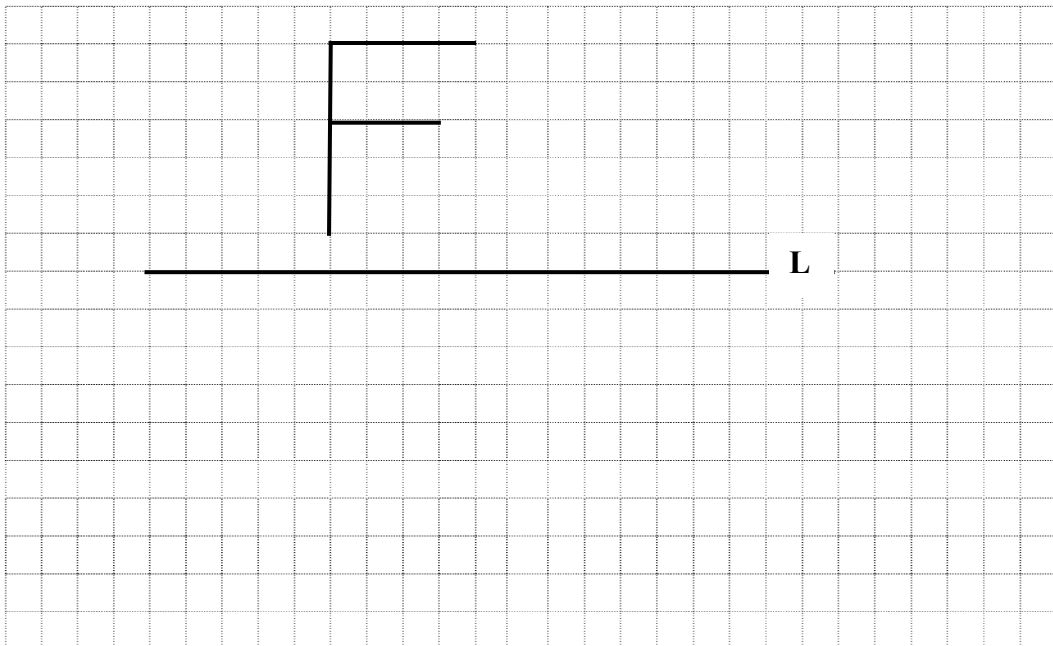


(b) Construct a triangle abc with

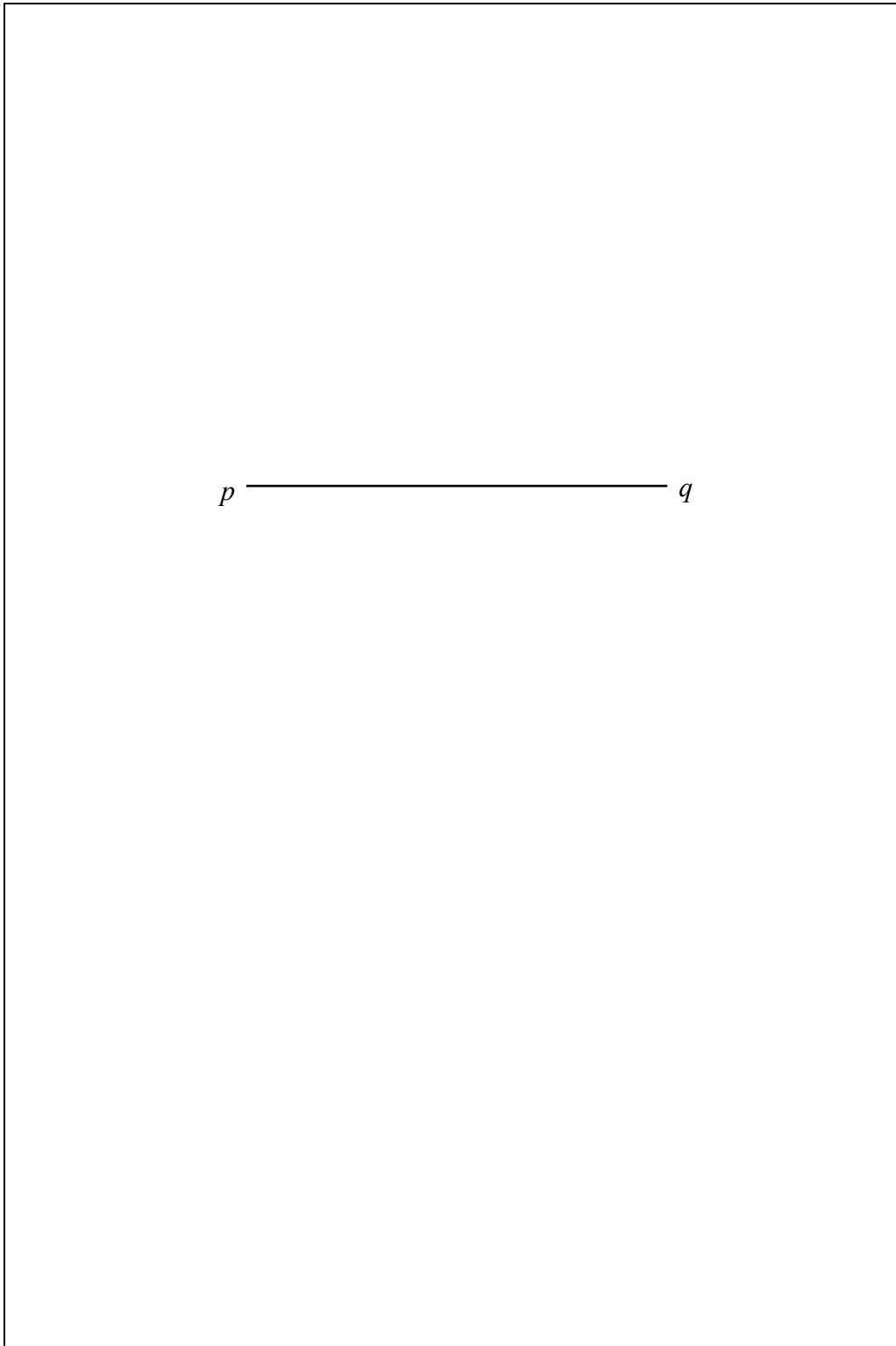
$$|ab| = 6 \text{ cm}, \quad |\angle bac| = 70^\circ \text{ and } |\angle abc| = 50^\circ.$$



(c) (i) Construct the image of the letter F in the diagram under the axial symmetry in the line L.

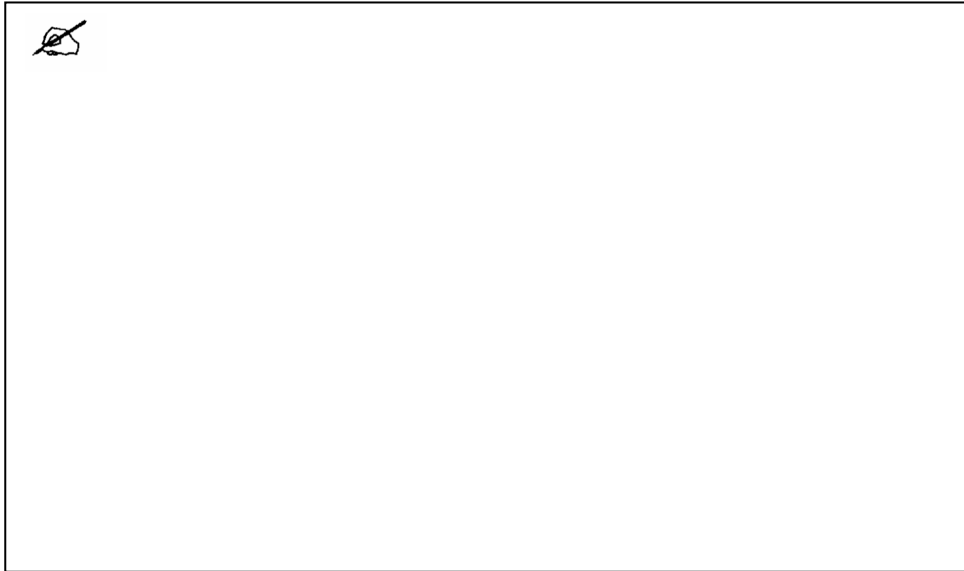


- (ii) Divide the line segment $[pq]$ into two equal parts.
Show all construction lines.

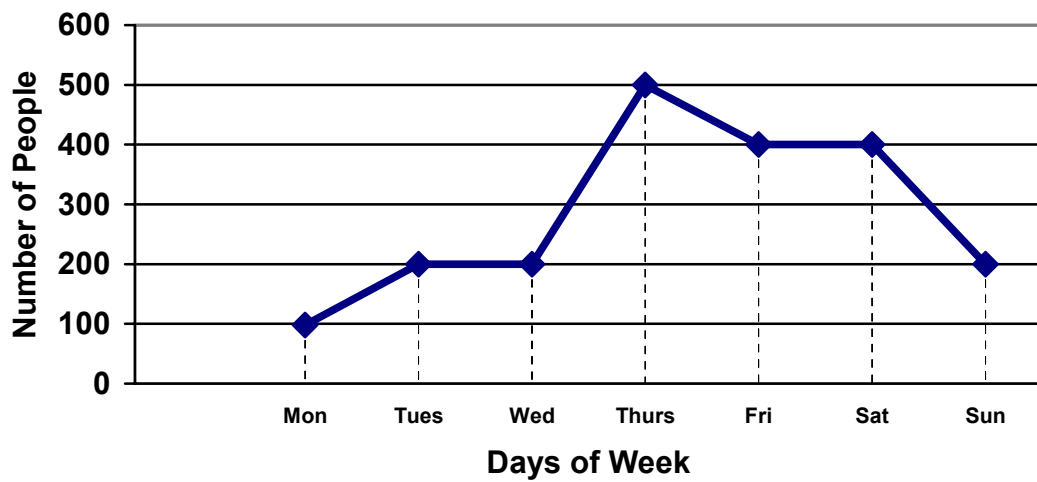


5. (a) Find the mean of the following numbers:

6, 3, 8, 11.




(b) The trend graph shows the number of people who went to see a film during one week.



(i) How many people went to see the film on Friday?



(ii) What was the total number of people who went to see the film during the week?



(iii) What fraction of the total number went to see the film on Friday?
Write your answer in its simplest form.



(c) The number of magazines bought by each of 25 families is shown below:



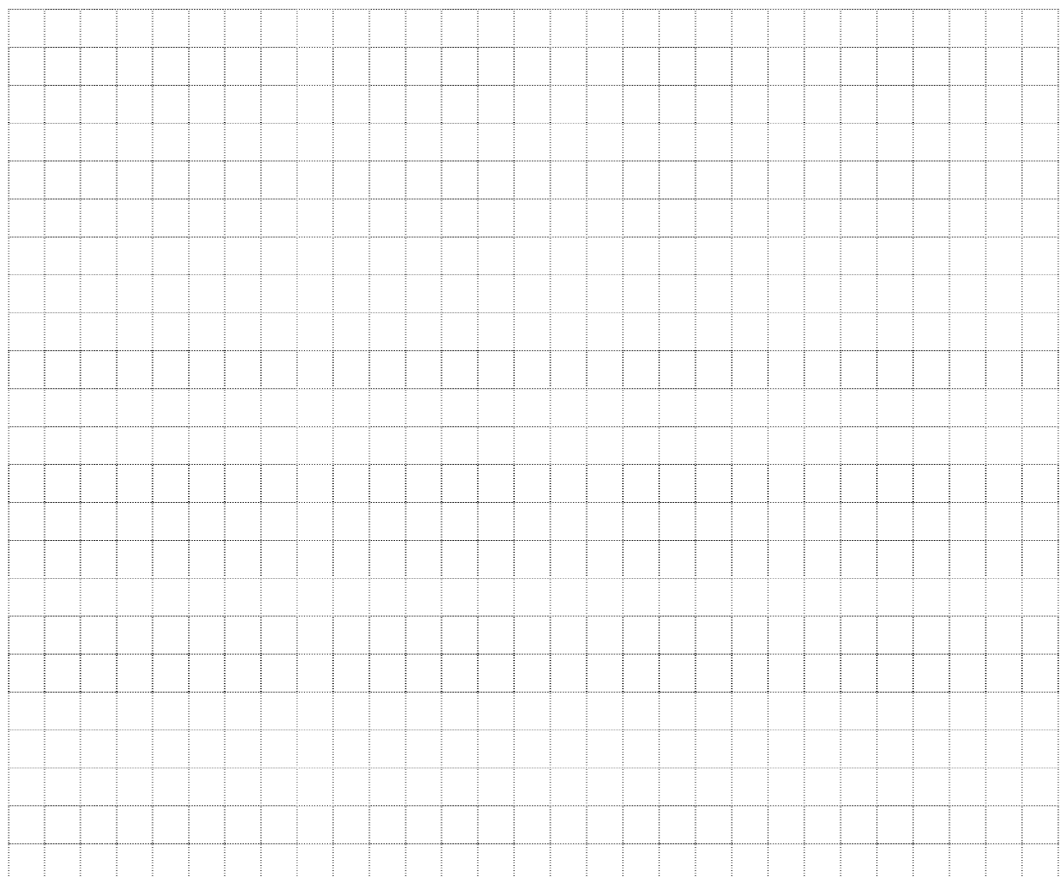
2	3	1	2	3
4	1	3	1	2
1	2	2	3	1
3	3	4	3	2
3	4	3	4	3

(i) Complete the table below:

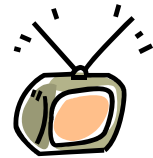
Number of magazines bought	1	2	3	4
Number of families		6		

(ii) Draw a bar chart to represent this information.

Use the grid to draw your bar chart.




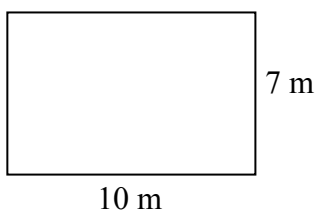
6. (a) A TV documentary began at 08:55 and ended at 10:20.
How long did the documentary last?





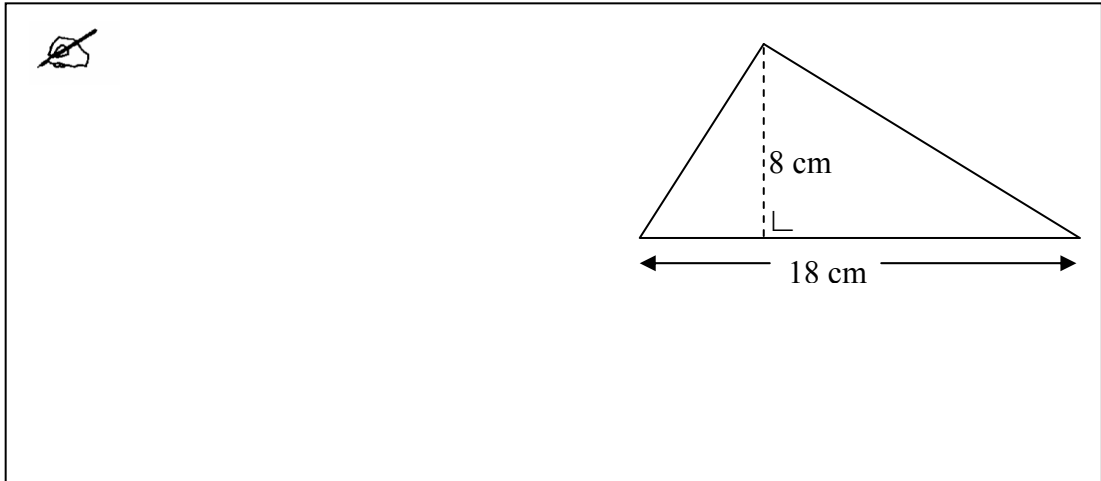
- (b) (i) A rectangle is 10 m long and 7 m wide.
Calculate the perimeter of the rectangle.





Part (b) continues on the next page

- (ii) Find the area of the given triangle.



- (c) The radius of a circle is 6 cm.

- (i) Calculate the length of the circumference of the circle, taking $\pi = 3.142$.



- (ii) The radius of a circular disc is 6 cm.
Calculate the area of the disc, taking $\pi = 3.142$.



Space for extra work



Space for extra work