

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA
JUNIOR CERTIFICATE EXAMINATION, 1998
MATHEMATICS – FOUNDATION LEVEL

24546

THURSDAY, 11 JUNE – MORNING 9.30 to 11.30

Attempt **all** questions.
All questions are of equal value.

Marks may be lost if necessary work is not shown.
Mathematics Tables may be obtained from the Superintendent.

1. Four people agree to share equally the cost of buying a van. If the van costs IR£5160, how much must each pay?

2. Blank cassettes cost IR£1.30 each.
 - (i) How much will it cost to buy five blank cassettes?
 - (ii) If the five cassettes are paid for with a IR£10 note, how much change is received?

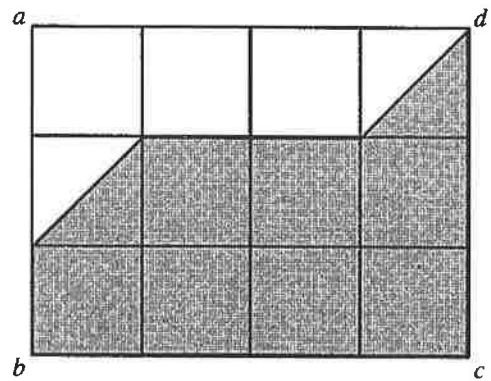
3. A four digit number, such as 3546, can be made by writing all four digits 4, 5, 6, 3 in any order.
 - (i) What is the largest number which can be made in this way?
 - (ii) What is the smallest number which can be made in this way?

4. An aeroplane leaves Dublin airport at 0940 hours and arrives in London 55 minutes later.
 - (i) At what time does it arrive in London?
 - (ii) The pilot was at the airport one hour before the flight left Dublin. If it took 35 minutes for the pilot to drive from home to the airport, at what time did the pilot leave home?

5. The diagram shows a rectangle $abcd$ divided into twelve equal squares.

(i) What fraction of the rectangle $abcd$ is shaded?

(ii) If the area of the rectangle $abcd$ is 18.75 cm^2 , what is the area of the shaded part?



6. A television set cost a dealer IR£300 and he sold it for IR£375.

(i) Calculate the amount of profit made.

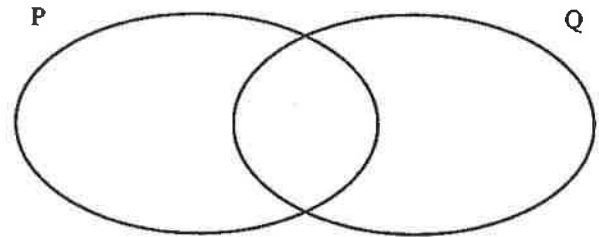
(ii) Express the profit as a percentage of the cost price.

7. P is the set of letters b, o, a, t .

Q is the set of letters t, r, a, i, n .

(i) Copy the Venn diagram into your answer-book and write the elements of the two sets in your diagram.

(ii) What are the elements of $P \cap Q$?



8. A car travelled for $2\frac{1}{2}$ hours. Its average speed was 70 km/hr. Find the distance travelled.

9. (a) Write the following decimal numbers in order, starting with the smallest and ending with the largest

0.08, 0.1, 0.009.

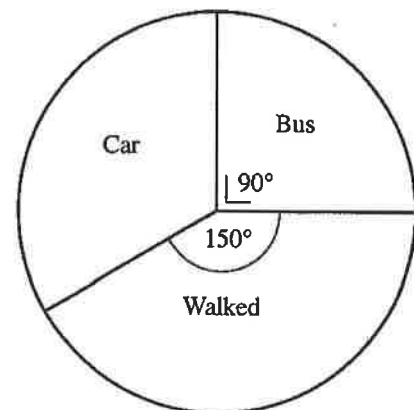
(b) Write the following fractions in order, starting with the smallest and ending with the largest

$\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{2}$.

10. One hundred and eighty students were asked how they usually travelled to school. Their answers are represented on the pie chart.

(i) How many students walked to school?

(ii) What fraction of the number of students travelled by bus?



11. Using a ruler and compass, construct a triangle whose sides are 7 cm, 5 cm and 4 cm.

Use your protractor to measure and record the largest angle in the triangle.

12. (i) Find the value of $7x - 2$ when $x = 5$.

(ii) Find the value of x for which $7x - 2 = 26$.

13. The number of people living in each of the twenty houses on a particular road is recorded. The results were

2	4	4	5	2
1	5	3	3	3
6	3	2	3	1
2	2	4	3	4

Copy and complete the table. It shows, for example, there were two houses with one person living in each, etc.

Number of people in a house	1	2	3	4	5	6
Number of houses	2	5				1

Draw a bar chart to represent the data, putting the number of people along the horizontal axis.

14. IR£800 is borrowed for two years at 15% per annum compound interest.

(i) How much is owed at the end of the first year?

(ii) Find the total interest owed at the end of the second year.

15. Find, using Tables, pages 20 - 25,

(i) $\sqrt{7.64}$

(ii) $\sqrt{76.4}$

(iii) $(7.64)^2$.

16. The following details are taken from an electricity bill:

	Present reading	Previous reading
UNITS	48 372	47 932

- (i) Calculate the number of units used.
- (ii) Calculate the cost of the electricity used, if each unit costs 7.5 pence.

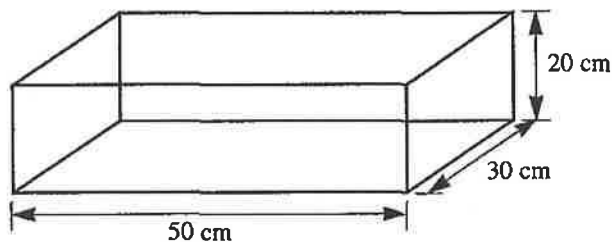
17. The graph of $y = 2x - 1$ is a straight line. Use the values $x = 1$, $x = 2$ and $x = 3$ to find three points on this line.

Plot these points on graph paper and draw the line.

Show on your graph how to find the value of x when $y = 4.5$.

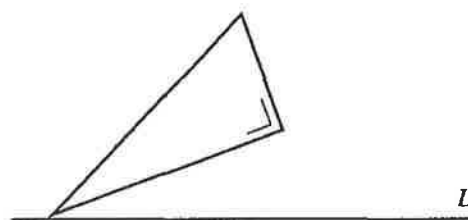
18. A rectangular fish tank has the measurements shown in the diagram.

- (i) Find the capacity (volume) of the fish tank in cm^3 .
- (ii) How many minutes will it take to fill the tank from a hosepipe which delivers 4 litres every minute?
(Note: 1 litre = 1000 cm^3 .)



19. Copy the diagram shown into your answerbook.

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



20. The diagram shows a four-sided figure inscribed in a circle.

Measure t° and s° and write down the value of $(t^\circ + s^\circ)$.

