AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

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JUNIOR CERTIFICATE EXAMINATION, 2001

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MATHEMATICS – FOUNDATION LEVEL

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THURSDAY, 7 JUNE – MORNING, 9.30 to 11.30

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Attempt **all** questions.
All questions are of equal value (15 marks each).

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

1.   A bill of IR£68 was shared equally by 4 people.

   (i)   How much did each person have to pay?

   (ii)   IR£20 was collected from each person.
   How much change did each receive?

2.   Find the total cost of these items:

ITEM	IR£
Calculator	6.55
Pen	2.53
Pencil	0.35
Compass	0.85
Set Square	0.55

3.   **(i)**   What is the lowest number that 2, 3 and 5 will divide into evenly?

   (ii)   Write $\dfrac{1}{2} + \dfrac{2}{3} - \dfrac{3}{5}$ as a single fraction.

4.   A bicycle was bought for IR£132. It was sold at a profit of 25%.
What was the selling price?

5. *U* is the set of pupils in a class.
H is the set of pupils who study History.
G is the set of pupils who study Geography.
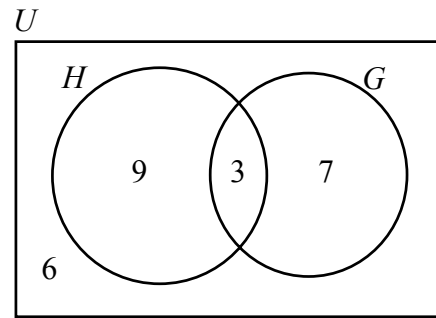
(i) How many pupils study neither History nor Geography?

(ii) How many pupils study both?

(iii) How many pupils study History?

U

H 9 3 7 G

6

6. A train leaves Cork at 10:45.

(i) It takes 23 minutes to reach Mallow.
At what time does it arrive in Mallow?

(ii) The train arrives in Thurles at 12:12.
How long does it take the train to travel from Cork to Thurles?

7. A bus travels 240 km in 3 hours.

(i) Calculate its average speed in km/hour.

(ii) A second bus makes the same journey at an average speed of 60 km/hour. How long does this bus take?

8. The table shows the number of absent pupils each day during a certain week.

Day	Mon	Tues	Wed	Thurs	Fri
Number of Pupils	3	4	2	1	5

Find the mean (average) number of pupils absent per day.

9. Find the value of

(i) $11 + 1.1 + 0.11$

(ii) $(2.34 \times 10) + (2.34 \times 100)$.

10. **(a)** Find the value of x when $3x - 1 = 11$.

(b) When $x = 4$ and $y = 3$, find the value of

(i) $3x - 2y$

(ii) $x^2 + 2x - 4$.

11. An electricity bill shows the following meter readings:

READING	PRESENT	PREVIOUS
UNITS	83 981	82 869

(i) How many units were used between these two readings?

(ii) Find the total cost of the units if each unit costs 7.5p.

12. Find, using Tables, pages 20 – 25,

(i) $\sqrt{15.21}$

(ii) $(3.6)^2$

(iii) $\sqrt{15.21} + (3.6)^2$, correct to the nearest whole number.

13. The marks given to 20 pupils in a test are shown below:

$$5 \quad 3 \quad 4 \quad 4 \quad 5$$
$$4 \quad 2 \quad 1 \quad 2 \quad 4$$
$$3 \quad 1 \quad 3 \quad 1 \quad 3$$
$$4 \quad 5 \quad 2 \quad 3 \quad 4$$

(i) Copy and complete the table:

Mark	1	2	3	4	5
Number of Pupils		3			

(ii) Write down the mode.

14. A rectangular tank measures 100 cm × 50 cm × 80 cm.

(i) Find the volume of the tank in cm^3.

(ii) Find the volume of the tank in litres.
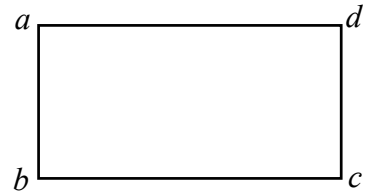(1 litre = 1000 cm^3)
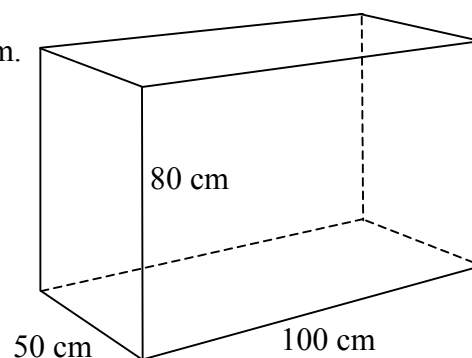
15. IR£500 earns 8% per annum compound interest for 2 years.

(i) Calculate the interest for the first year.

(ii) Calculate the interest for the second year.

16. Using a ruler and compass, construct a triangle with sides 5 cm, 7 cm and 9 cm.

Use a protractor to measure the smallest angle and write down your answer.

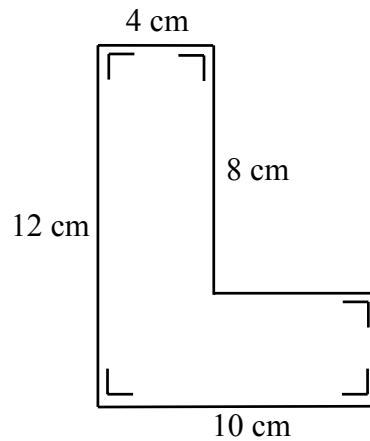**17.** **(i)** Copy the rectangle *abcd* into your answerbook.

(ii) Construct its image under the translation $\overrightarrow{dc}$.
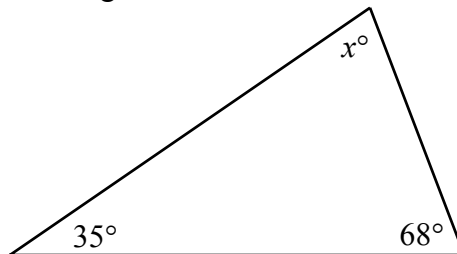
18. Calculate

(i) the length of the perimeter

(ii) the area

of the shape in the diagram.

19. Find the value of *x* in the diagram.

20. **(i)** Given that $y = 2x + 1$, copy and complete the table below:

x	0	1	2	3
y	1			

(ii) Plot these four points on graph paper and join them to form a line.