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JUNIOR CERTIFICATE EXAMINATION, 1995

MATHEMATICS – FOUNDATION LEVEL

THURSDAY, 8 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. Prize money of IR£4494 is shared equally between six people.
   How much is each share?

2. Find the total cost of the bill below:

Newspapers	IR£1.27
T.V. Guide	IR£0.85
Magazine	IR£1.58

   How much change is received out of IR£5?

3. *(a)* Put these numbers in order. Begin with the smallest and end with the largest.

   2970, 3125, 4203, 1080, 3104.

   (b) Write down the largest possible four figure number using all of the digits 2, 5, 1, 9.

4. A film starts at 1440 hours and finishes 2 hours 45 minutes later.
   What time does the film finish?

   The film starts again at 1800 hours. How long is the break between the two showings of the film?

5. The goals scored by twenty teams each playing one match are recorded below:

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

   (i) Copy the frequency table below into your answerbook and complete it:

Number of goals scored	0	1	2	3	4
Number of teams		4			

   (ii) Find the mean (average) number of goals scored per team.
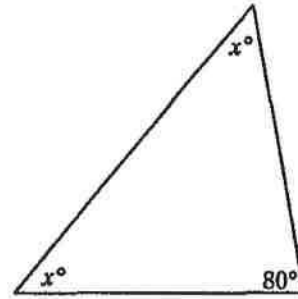
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6. Write ¼ as a decimal.

A car travels a distance of 180 km in 2¼ hours.
Find the speed of the car in km/hr.

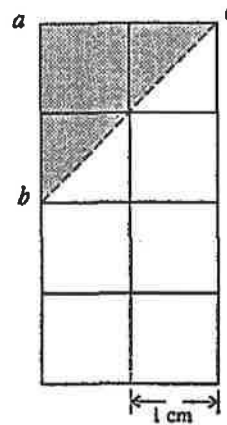**7.** The measures of the three angles of a triangle sum to 180°.

Calculate the value of x.

8. The diagram consists of 8 squares each
with side of length 1 cm.

    (i)   Calculate the area of the triangle *abc*.

    (ii)   Express the area of the triangle *abc* as
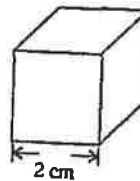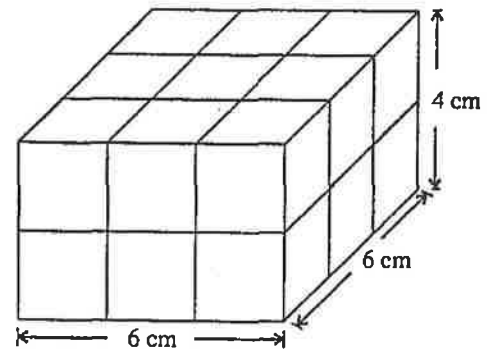a fraction of the total area.

9. Construct the triangle *abc* with

$$| ab | = 4 \text{ cm}, \quad | \angle bac | = 60° \quad \text{and} \quad | ac | = 8 \text{ cm}.$$

Measure $\angle acb$ and write down its size.

10.   *(i)*   Calculate the volume of a cube with
side of length 2 cm.

    (ii)   How many of these cubes will exactly
fill a rectangular box with a square base
of side 6 cm and height 4 cm?

11. Find the value of

    (i) $5x + 4$ when $x = 3$

    (ii) $3x + 7y$ when $x = 2$ and $y = 5$.

12. A couple can buy a fridge by either

    (i)   paying IR£75 at once and IR£12 per month for the next 6 months
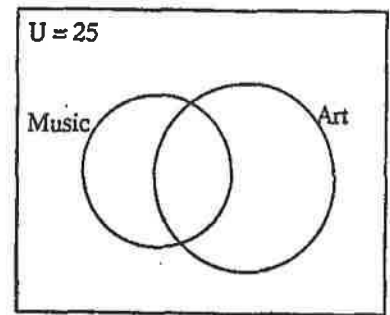
    OR

    (ii)   paying IR£50 at once and IR£7.50 per month for the next 12 months.

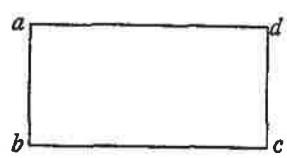Find out which is the cheaper way and by how much.

13. In a class of 25 pupils, 8 study Music, 13 study Art, while 4 study both Music and Art.

    (i)   Copy the Venn diagram into your answerbook.

    (ii)   Find the number of pupils who study Music only.

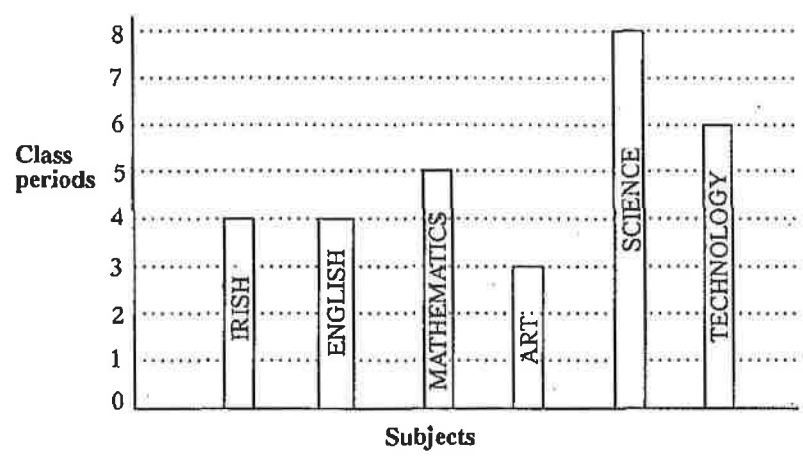   *(iii)*   Find the number of pupils who study neither subject.

14. Plot the points (1, 3), (2, 5) and (3, 7) on graph paper. Join these points on your graph paper to form a line.
These points lie on the graph of $y = 2x + 1$.
The point (4, y) is also on the line. Find the value of y.

15. Copy the rectangle *abcd* into your answerbook.
Draw the image of the rectangle *abcd* under the axial symmetry in the line *cd*.

16. In a restaurant, a service charge of 10% is added to a bill of IR£24.50.
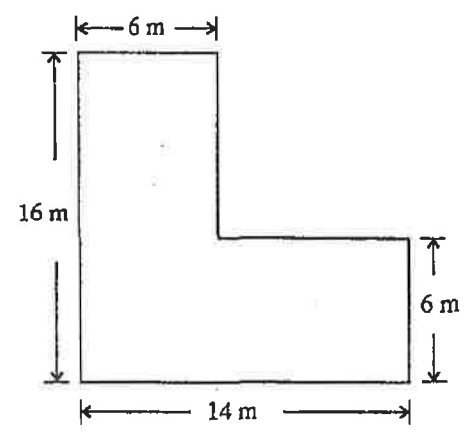Find the total bill.

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17. The number of class periods per week for six subjects for a certain class is shown in the bar-chart.

(i) Which subjects have 4 class periods each?

(ii) How many class periods are given per week for all 6 subjects?

(iii) If each class period is 40 minutes, how much time, in hours and minutes, is given to Science in a week?

18. A garden has a rectangular L shape as shown.

(i) Find the length of the perimeter of the shape in the diagram.

(ii) Calculate the area of the shape.

19. A gas bill contains the following details:

Present meter reading 46 781 units.
Previous meter reading 44 121 units.

(i) How many units of gas were used since the previous reading?

(ii) Calculate the cost of the units of gas used if each unit costs 2.4 pence.

(iii) VAT is charged at 12½% on the number of units of gas used.
Find the amount of VAT paid.

20. *(i)* A square in a park has a side of length 14 m.
Find the area of the square.

(ii) A pond is made by cutting out a circular region as shown. If the area of the pond is 68 m^2, find the area of the shaded part.

(iii) Calculate the cost of paving the shaded part when 1 m^2 of paving costs IR£4.50.