

Junior Certificate Examination, 1996.

MATHEMATICS - FOUNDATION LEVEL

THURSDAY 6 JUNE - MORNING 9.30 a.m. to 11.30 a.m.

25949

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. A prize of IR£9464 is shared equally by 7 winners. How much does each receive ?
2. Here is a lunch bill. The cost of the main dish is not printed. Calculate the cost of the main dish.

	IR£
Juice	0.80
Soup	1.25
Main Dish.....	
Fresh fruit	1.25
Tea	0.50
<hr style="border-top: 1px dashed black;"/>	
Total	7.50

3. Find the value of

$$\frac{1}{3} + \frac{1}{4} + \frac{5}{12}$$

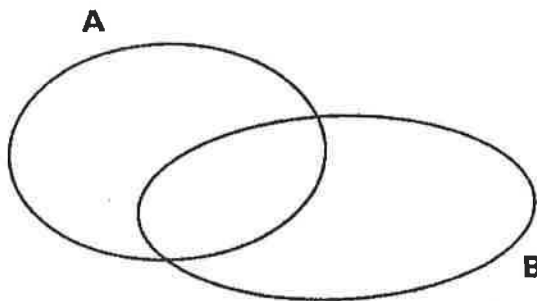
4. A shopkeeper bought an article for IR£90 and sold it for IR£120. Calculate the percentage profit.
5. Find the value of $(123.4 \times 10) + (12.34 \times 100)$.
6. A game on TV was recorded on a three hour video tape. Recording began at 14.55 hours and ended at 16.50 hours.
How much recording time, in minutes, was left on the tape ?
7. A journey of 224 kilometres was completed in 3 hours 30 minutes.
Calculate the average speed in kilometres per hour.

8. Copy the Venn diagram shown.

$$A \cup B = \{4, 9, 12, 15, 18, 20\}.$$

In set A put numbers divisible by 2.

In set B put numbers divisible by 3.



9. A person invested IR£500 for 1 year. The rate of interest was 20% per annum. Find the interest and the amount at the end of the year.

Another person invested IR£ 500 for 2 years. The rate of interest for the first year was 10% and for the second year was 10%. Calculate the amount at the end of the two years.

10. The shoe sizes of 20 office workers are listed:

8 10 12 10 9
9 8 9 8 7
10 11 12 6 9
10 12 5 8 8

Copy and complete the table below:

Shoe size	5	6	7	8	9	10	11	12
Number of workers	1	1			4			

What size is the mode ?

Calculate the mean size of shoe.

11. Write the natural number nearest to

(i) 9.06

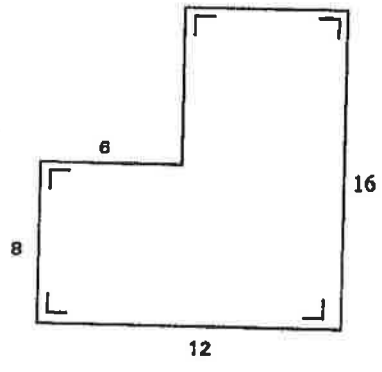
(ii) 49.06

Use these natural numbers to approximate $(9.06)^2$ and $\sqrt{49.06}$

Find, from the Tables, pages 20 to 25, the value of $(9.06)^2$ and $\sqrt{49.06}$

12. There were crowds of 600, 1200, 1800 at three separate games.
Represent the data on a pie chart where 360° represents all the people at the three games.

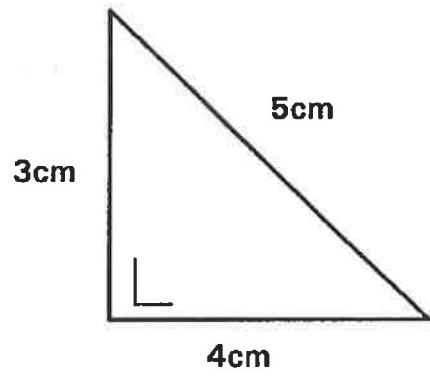
13. A piece of paper is cut in the shape shown.
 Find the length of the perimeter of the shape.
 Find the area of the shape.



14. Cleaning the school after classes costs IR£5220 for 180 days.
 Calculate the cost of cleaning per day.
 Two people do this cleaning for two hours each day.
 Calculate the cost per person per hour.

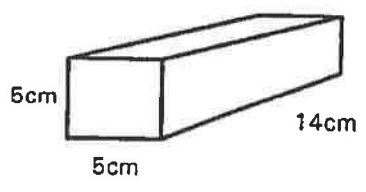
15. (i) Find the value of $3x + 7y$ when $x = 11$ and $y = 44$.
 (ii) Solve for x
 $3x^2 - 27 = 0$.
 (iii) Find the value of
 $x^2 - 33x + 230$ when $x = 10$.

16. Verify the Theorem of Pythagoras,
 if the lengths of the sides in the
 right angled triangle are as shown.



17. Irish creamery butter is sold in rectangular
 blocks 5 cm by 5 cm by 14 cm.

Find the volume of butter in the block.
 The mass of this block is 454 grammes.

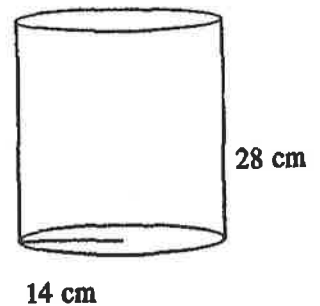


What mass of butter would be in a
 similar block 10 cm by 10 cm by 28 cm ?

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18. The cylinder shown has radius length 14 cm and height 28 cm.

Find the volume if π is taken as $\frac{22}{7}$.



19. Change the following fractions to percentages:

$$\frac{32}{100}, \quad \frac{32}{50}, \quad \frac{32}{25}$$

Change the following percentages to fractions: [For example $10\% = \frac{1}{10}$]

$$12\frac{1}{2}\%, \quad 2\frac{1}{2}\%$$

20. Draw the graph of $y = 2x + 4$, taking $x = 1, 3$ and 5 .

Use the graph to find y when $x = 2.2$.