Junior Certificate Examination, 1997.

25516

MATHEMATICS - FOUNDATION LEVEL

THURSDAY 12 JUNE - MORNING 9.30 a.m. to 11.30 a.m.

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

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

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1. The cost of a 3 minute telephone call is 11.7p.
    What is the cost of a 24 minute telephone call to the nearest penny?

2. A person buys

	IR£
milk	1.28
bread	0.78
butter	1.34
tea	1.07
crisps	0.63

    Find   (i)   the total bill

            (ii)   the change out of IR£10.

3. Find the value of

    $$\frac{2}{3} + \frac{3}{4} - \frac{5}{12}.$$

4. Find the value of   (i) $(2.8 + 2.2) \times 6$

                            (ii) $2.8 + 2.2 \times 6.$

5. Write, correct to the nearest natural number

            (i)   7.2
   (ii)   9.03.

    Find from the Tables, pages 20 - 25, the value of

            (iii) $(7.2)^2$

            (iv) $\sqrt{9.03}.$

6. A bus completes a journey of 170 km in 2 hours and 30 minutes.
    Calculate the average speed in km/hour.

7. At the start of a T.V. film the time on a watch was 14 : 34 hours. The film ran for 1 hour and 35 minutes. What was the time on the watch then?

8. A seller of Lottery tickets is allowed to keep 5% of the price of all tickets sold. On a particular day IR£900 worth of tickets were sold. How much did the seller keep?

9. IR£300 earned 9% per annum compound interest over two years. Calculate the interest.

10. A shop-keeper ordered 2 tonnes of coal. It was delivered in bags of 50 kg each. How many bags were delivered, if one tonne is 1000 kg?

11. A person earned IR£150 a week. IR£50 was tax free. The rest was taxed at 27p in the IR£. Calculate the tax.
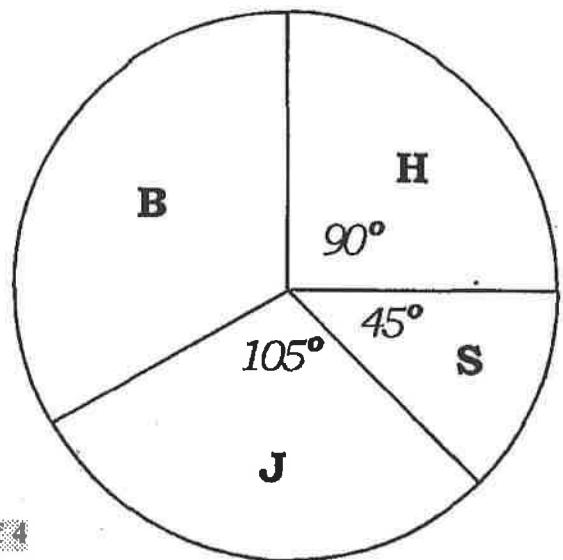
12. In a club of 47 playing members, 26 play football and 8 play both football and hurling. Each member plays at least one of the games.
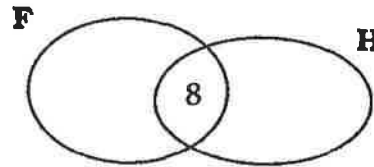
Copy the Venn diagrams and write on them the number

(i)   that play only football.
(ii)   that play only hurling.

13. The pie-chart compares the cost of
a hurley (H)
a pair of socks (S)
a jersey (J)
a pair of boots (B).

If the hurley costs IR£24, find the cost of

(i)   the socks
(ii)   the jersey
(iii)   the boots.

14. The marks of 20 pupils in an exam are shown below:

9	13	11	17	13
15	17	9	15	13
17	15	7	19	17
13	11	15	19	15

Copy and complete the table below.

Mark	7	9	11	13	15	17	19
Number of pupils	1	2	2		5		2

Calculate the mean (average) mark per pupil.

15. Construct a triangle if the sides are 6 cm, 8 cm and 10 cm in length.

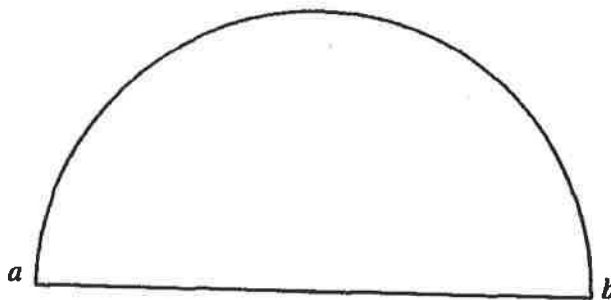Calculate the area of the triangle.

6 cm   8 cm   10 cm
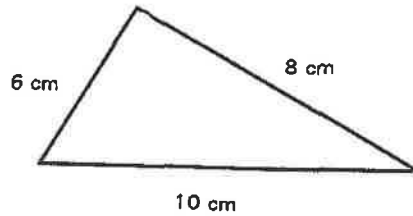
16. The diagram shows a semi-circle of radius length 3.8 cm and its diameter [ab].

Construct the diagram in your answerbook.

Mark any point of the semi-circle. Call it p.

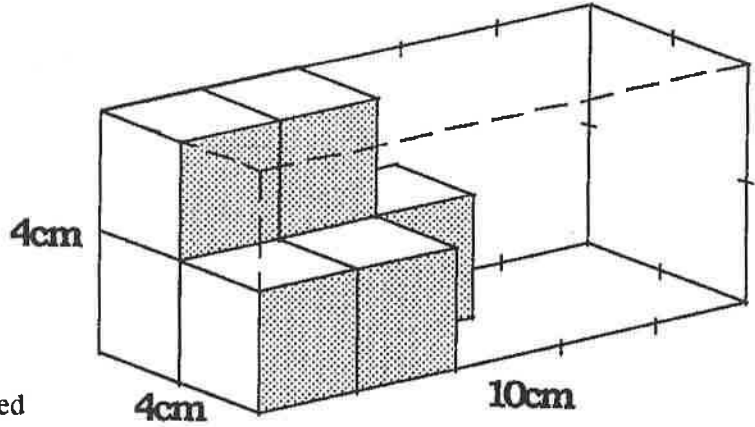Write down the size of the angle bpa.

a   b

17. A box measures 4 cm by 4 cm by 10 cm.

It has 7 cubes stacked tightly inside.

Each cube measures 2 cm by 2 cm by 2 cm.

How many more such cubes must be stacked inside so as to fill the box?

4cm

4cm   **10cm**

18. The scale of a map is 10 cm (on the map) = 50 km (in reality).

    (i) The map-distance between two towns is 8 cm.
        Find the real distance between the towns.

    (ii) Two other towns are 75 km apart.
         What is the map-distance between them?

19. (a) When $x = 3$ and $y = 5$, find the value of

        (i) $3x + 4y - 29$

        (ii) $x^2 + 7x - 6$.

    (b) Solve for x when $8x + 28 = 100$.

20. On graph-paper plot the points (1, 1), (2, 5), (4, 13).

Join the points.

From the graph find the value of k if (3, k) is on the line joining (2, 5) and (4, 13).