A

SAMAGRA SHIKSHA KERALA
ANNUAL EVALUATION 2023-24

E-803

Class : 8
MATHEMATICS
Time : $1\frac{1}{2}$ hours

Score : 40

Instructions

- There is a 'cool off' time of 15 minutes in addition to the writing time. Use this time to get familiar with questions and plan your answers.
- Read the instructions carefully before answering the questions.
- Keep in mind, the score and time while answering the questions. Give explanations wherever necessary.

Answer any 4 Questions from 1 to 5. Each question carries 2 scores.   (4 × 2 = 8)

1. In the figure, AC = BC = 5 centimetres. ∠C = 60⁰.

    (a) AB = ...
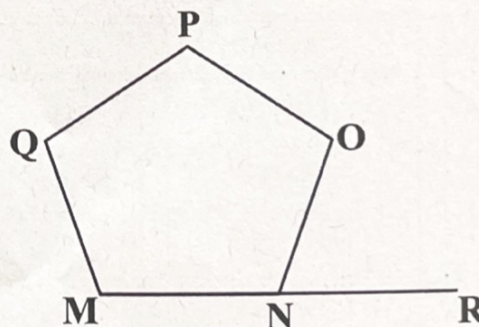
    (b) ∠ A = ...
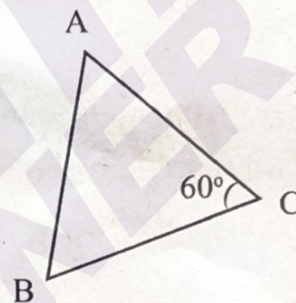
2. Five is subtracted from five times of a number gives 100.

    What is the number?

3. In the figure, MNOPQ is a regular pentagon.

    (a) ∠ OPQ = ...

    (b) ∠ ONR = ...

4. The three angles in a triangle are in the same ratio.

    (a) Which type of a triangle is this?

         (Equilateral triangle, Isosceles triangle, Right triangle)

    (b) Find one angle of this triangle.

5. (a) $5-(-3)$ = ...

    (b) $10+(-10)$ = ...

Answer any 4 Questions from 6 to 11. Each question carries 3 scores. $(4 \times 3 = 12)$

6. $a^2 - b^2 = (a+b)(a-b)$
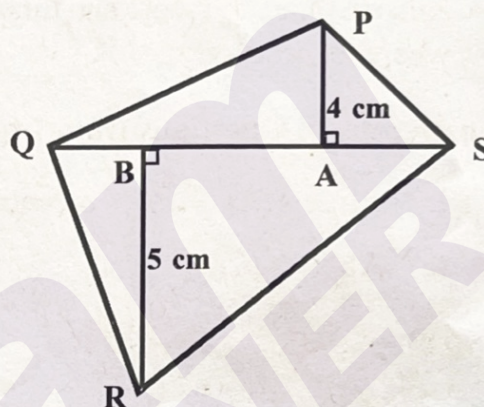
   (a) $146^2 - 145^2 = $ ....

   (b) Using the above identity, find 31×29.

7. A person deposited 20000 rupees in a bank which pay 10% interest compounded annually. How much would he get back after two years?

8. In the figure, PQRS is a quadrilateral.

   QS = 10 centimetres, PA = 4 centimetres,

   BR = 5 centimetres.

   (a) What is the sum of heights of the triangle PQS and the triangle RQS?

   (b) Find the area of the quadrilateral PQRS.

9. (a) What is $(-1)^2$?

   (b) $y = x^2 + 5$, if $x = -1$, find y.

10. The scores obtained by some children in a mathematics quiz competition are tabled below.

Score	Number of children
0 - 5	2
5 - 10	6
10 - 15	11
15 - 20	5
20 - 25	1

   (a) What is the total number of children participated in the quiz competition?

   (b) In which class does the score of the first placed child belongs?
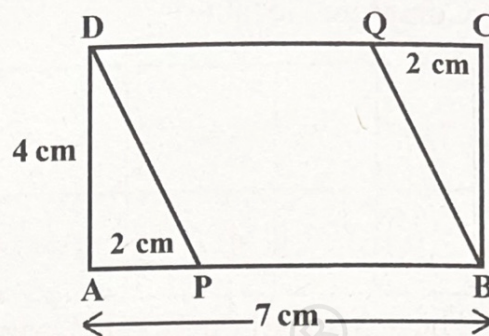
   (c) What is the number of children who scored more than 10 ?

   (25,   23,   17,   11)

11. In the figure, ABCD is a rectangle.
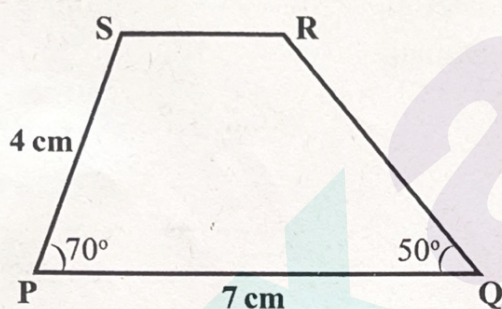   AB = 7 centimetres, AD = 4 centimetres,
    AP = CQ = 2 centimetres.

    (a) What is the perpandicular distance
        between the line PB and QD?

    (b) What is the length of PB?

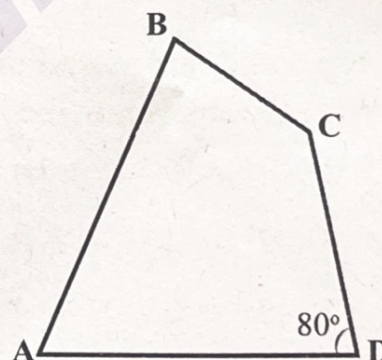   (c) Find the area of the parallelogram PBQD.

Answer any 5 Questions from 12 to 18. Each question carries 4 scores. $(5 \times 4 = 20)$

12. Draw a trapezium PQRS of given measures.

13. In the figure, ABCD is a quadrilateral. $\angle D = 80^0$.
    (a) $\angle A + \angle B + \angle C = $ ....

    (b) If the measures of $\angle A$, $\angle B$ and $\angle C$ are in the
        ratio **1 : 1 : 2**, find $\angle A$, $\angle B$ and $\angle C$.

14. The runs scored by a cricket player in 40 one day matches are tabled below.
    Draw a histogram.

Runs	Number of matches
0 - 20	5
20 - 40	7
40 - 60	6
60 - 80	12
80 - 100	4
100 - 120	6

15. Complete the table.

x	y	x × y	x − y	x + y	$\dfrac{x}{y}$
−6	−3	a)	b)	c)	d) .....

16. The area of a rhombus is 12 square centimetres and length of one of its diagonal is 6 centimetres.

    a) What is the length of second diagonal of this rhombus?

    b) Draw the rhombus using these measures.

17. In the figure, ABCD is an isosceles trapezium. AB = 13 centimetres, CD = 7 centimetres, AD = 5 centimetres.
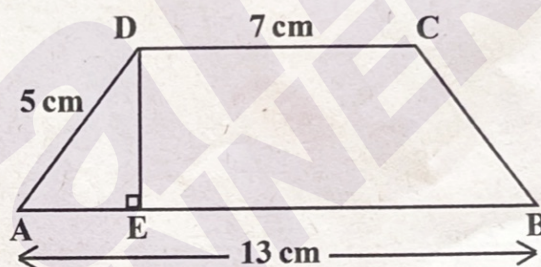
    a) What is AE?

    b) DE = ...

    c) Find the area of the isosceles trapezium ABCD.

18. Read and understand the mathematical concept in the pattern given below. Write the answers to the following questions.

$$3^2 - 1^2 = 9 - 1 = 4 \times 2$$
$$4^2 - 2^2 = 16 - 4 = 4 \times 3$$
$$5^2 - 3^2 = 25 - 9 = 4 \times 4$$
$$6^2 - 4^2 = 36 - 16 = 4 \times 5$$

....

....

   (a) Write the next line in the pattern.

   (b) $9^2 - 7^2$ = ... × 8

   (c) $15^2 -$ .... = 4 × 14

   (d) $(x+1)^2 - (x-1)^2$ = ...