

Time : 1½ Hours

Score : 40

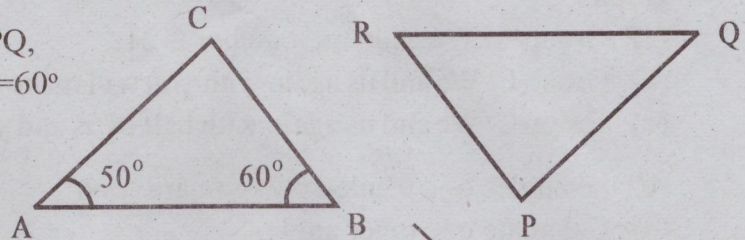
Instructions

- Read the instructions before answering the questions
- Give explanations wherever necessary
- First 15 minutes time is cool – off time

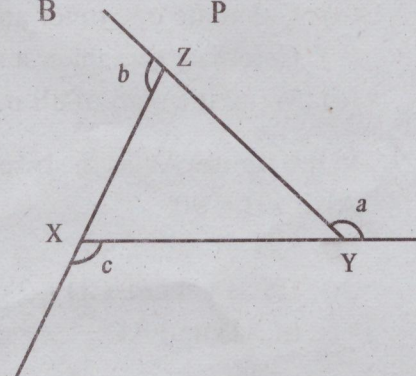
Answer any 4 Questions from 1 to 5. Each question carries 2 scores. (4 x 2 = 8)

- 1 In the figure $AB=QR$, $AC=PQ$,
 $BC=PR$. Also $\angle A=50^\circ$, $\angle B=60^\circ$
then

- (a) $\angle Q = \dots\dots\dots$
(b) $\angle P = \dots\dots\dots$

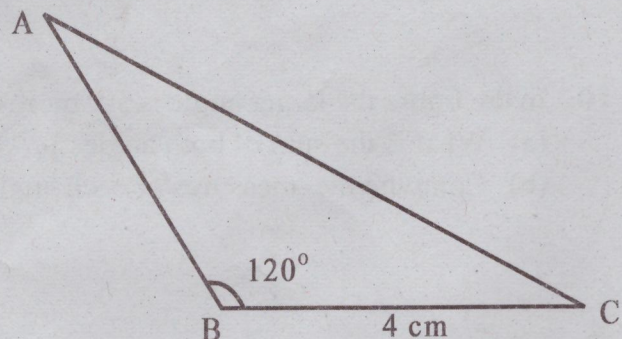


- 2 In the figure the outer angles of equilateral triangle XYZ are marked as a, b and c . Then
(a) $a + b + c = \dots\dots\dots$
(b) If the sum of outer angles and sum of inner angles of a polygon are equal, name the polygon.



- 3 Twice a number subtracted from 5 times of the same number gives 12. Then
(a) Write the algebraic form of the statement.
(b) Which is the number?

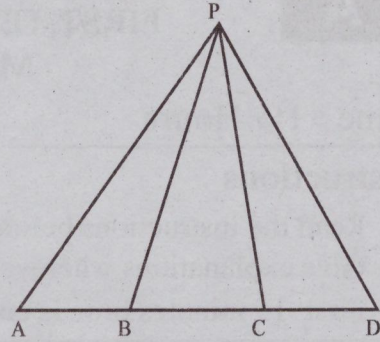
- 4 In the figure $\angle A = \angle C$. Also
 $\angle B = 120^\circ$ and $BC = 4\text{cm}$
(a) $AB = \dots\dots\dots$
(b) $\angle A = \dots\dots\dots$



- 5 (a) What is the sum of angles of a hexagon?
(b) If the number of sides of a polygon increases one by one, what will be the increment in sum of inner angles

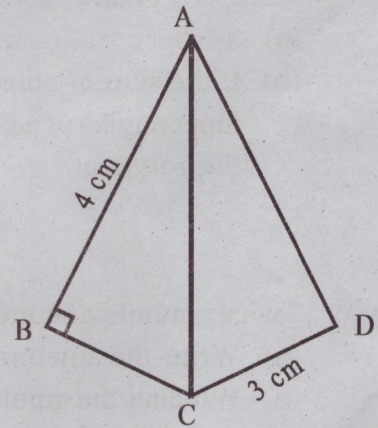
Answer any 4 Questions from 6 to 11. Each question carries 3 scores. (4x3=12)

- 6 In the figure $PA = PD$. Also $AB = BC = CD$
- If $\angle A = 50^\circ$, then $\angle D = \dots\dots\dots$
 - $PB = 5$ cm, what is the length of PC , why?

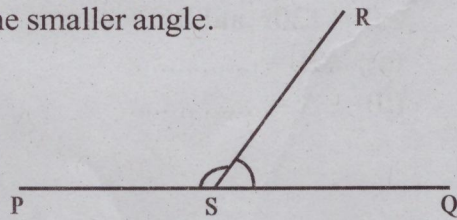


- 7 Hai friend.... we have 3 groups named A, B, C. Can you say how many are we in each group?
- Group A: We and you together is 21.
 - Group B: We and us again with you will make 21.
 - Group C: We and us again with half of us and you will make 21.
- 8 All the angles of a 9 sided polygon are equal.
- Calculate one outer angle.
 - Calculate one inner angle.
 - Write the sum of all inner angles.

- 9 In the figure, AC is the bisector of both $\angle A$ and $\angle C$. Also $\angle B = 90^\circ$
- $\angle D = \dots\dots\dots$
 - If $AB = 4$ cm, $CD = 3$ cm, write the lengths of AD and AC .



- 10 In the figure the larger angle is 50° more than the smaller angle.
- What is the sum of both angles?
 - Compute the measures of each angle.



- 11 In a pentagon
- How many diagonals can be drawn from a vertex to other vertices?
 - How many triangles will be made by these diagonals?
 - What is the sum of angles of a pentagon?

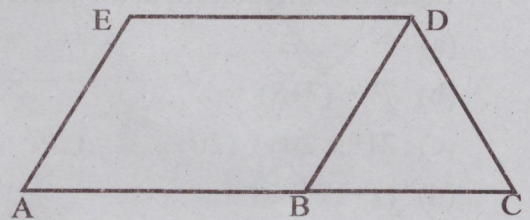
Answer any 4 Questions from 12 to 17. Each question carries 4 scores. (4x4=16)

- 12 (a) Draw the perpendicular bisector of a line of length 11 cm.
 (b) Draw a square of perimeter 11 cm.
- 13 In a calendar a square of 4 numbers are marked as shown below.

2	3
9	10

- (a) Write the sum of these four numbers.
 (b) Another 4 numbers are marked like this and their sum is 44. Which are the numbers?
- 14 The figure shows a rhombus and an equilateral triangle joined together.

- (a) $\angle C = \dots\dots\dots$
 (b) $\angle ABD = \dots\dots\dots$
 (c) $\angle E = \dots\dots\dots$
 (d) $\angle A = \dots\dots\dots$

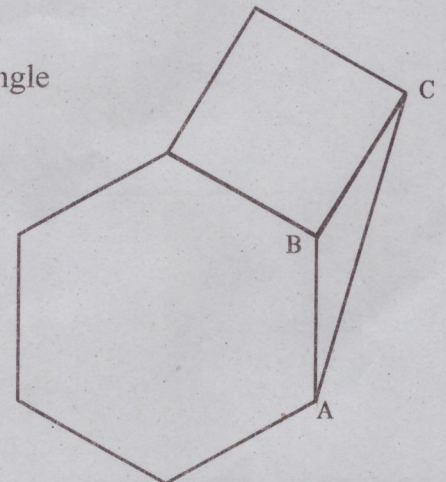


- 15 (a) Draw an angle of 55° and bisect the angle.
 (b) Draw a triangle ABC with $\angle A = 27\frac{1}{2}^\circ$, $\angle B = 70^\circ$ and $AB = 5$ cm.
- 16 Age of elder brother is 10 years more than the age of the younger brother. After 4 years age of elder brother will become twice the age of younger brother.
- (a) Look at the table and fill in the blanks.

	Present age	Age after 4 years
Age of younger brother	x
Age of Elder brother

(b) What is the present age of younger brother?

- 17 In the figure, a regular hexagon, a square and a triangle put together.
- (a) What is one angle of the square?
 (b) Write the measures of all the three angles of triangle ABC.



Read the given passage carefully and write answers to the following questions. Each question carries one score (4 x 1 = 4)

18 Look at the pattern

$$2^2 = 1^2 + (1 + 2) = 4$$

$$3^2 = 2^2 + (2 + 3) = 9$$

$$4^2 = 3^2 + (3 + 4) = 16$$

.....
.....

Usually we are calculating the square of a number by multiplying a number with the same number. But here another method is applied to get the square of a number.

Using this method fill in the blanks of the following.

(a) $5^2 = \dots\dots\dots$

(b) $7^2 + (7+8) = \dots\dots\dots$

(c) $21^2 = 20^2 + (20+\dots\dots\dots)$

(d) $(x+1)^2 = x^2 + \dots\dots\dots$