

SAMAGRA SHIKSHA, KERALA
FIRST TERMINAL EVALUATION 2023-24
MATHEMATICS

Time : 1½ Hours
 Total Score : 40

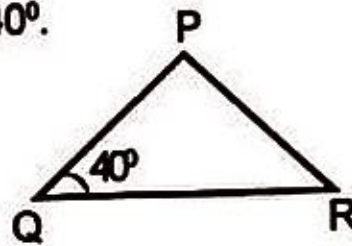
Standard: VIII

Instructions

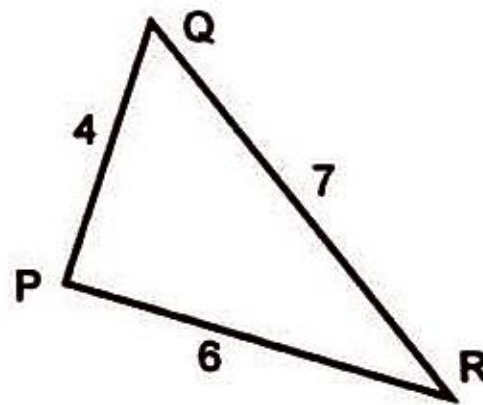
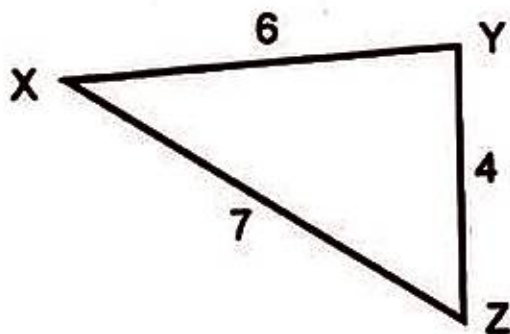
- There is a 'cool off' time of 15 minutes in addition to the writing time. Use this time to get familiar with questions and plan your answers.
- Read the instructions carefully before answering the questions.
- Keep in mind, the score and time while answering the questions. Give explanations wherever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

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

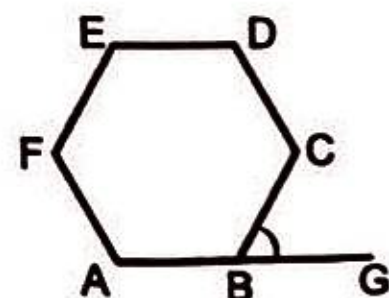
1. In the figure $PQ = PR$, $\angle Q = 40^\circ$.



- (a) What is the measure of $\angle R$?
 (b) Find $\angle P$.
2. Sum of 3 consecutive natural numbers is 15. What are the numbers?
 3. Write two pairs of equal angles in the triangles given below.



4. Find the sum of the angles of a 12 sided polygon.
 5. The figure shows a regular hexagon.
 (a) What is the measure of $\angle ABC$?
 (b) What is the measure of $\angle CBG$?

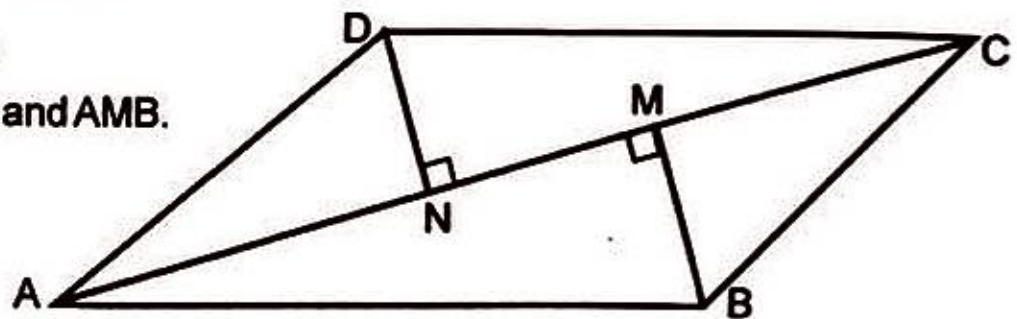


Answer any 4 questions from 6 to 11. Each question carries 3 scores. (4 x 3 = 12)

6. ABCD is a parallelogram. DN and BM are perpendiculars drawn to the diagonal AC.

(a) Write the angle equal to $\angle BAC$.

(b) Write the equal angles of Right triangles CND and AMB.



7. Draw an angle of measure 85° and draw its angle bisector.

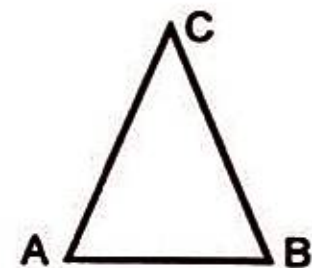
8. A box contains white balls, red balls, and blue balls. The number of red balls is double the number of white balls and the number of blue balls is three times the number of white balls. If the box contains 24 balls in total, find the number of balls of each colour.

9. In the figure, $\angle A$ and $\angle B$ are equal.

$\angle C$ is 12° smaller than $\angle A$.

(a) If $\angle A = x$, $\angle C = \dots\dots\dots$

(b) Find the measure of $\angle A$ and $\angle C$.



10. In the figure, the side CD of a quadrilateral ABCD is extended to E.

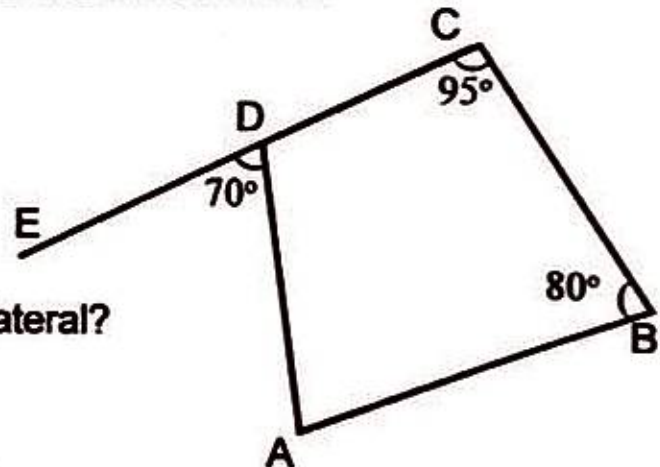
$\angle B = 80^\circ$ and $\angle C = 95^\circ$.

Also, the measure of outer angle ADE is 70° .

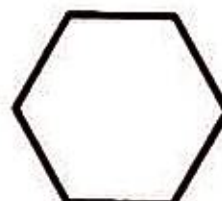
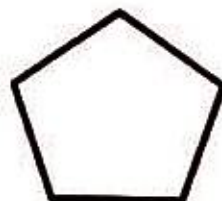
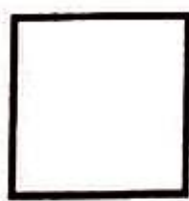
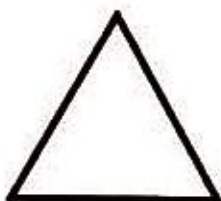
(a) What is the measure of $\angle ADC$?

(b) What is the sum of inner angles of a quadrilateral?

(c) Find $\angle A$.



11. Look at the figures of regular polygons given below.



(a) Write the name of the regular polygon having outer angle and inner angle are equal.

(b) Write the name of the regular polygon having outer angle is more than the inner angle.

(c) What is the measure of outer angle of the equilateral triangle.

Answer any 5 questions from 12 to 18. Each question carries 4 scores. (5 × 4 = 20)

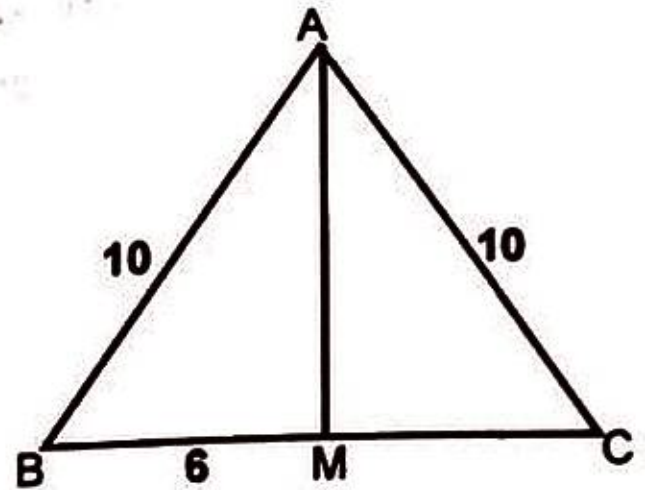
12. Draw a square, each side 3.25 centimetres long.

13. In triangle ABC, AB = AC = 10 centimetres.

M is the midpoint of BC.

BM = 6 centimetres.

- (a) $\angle AMB = \dots\dots\dots$
 (b) Find the length of AM.
 (c) What is the length of BC?



14. Match the following:

A	B
(a) 13 added to a number gives 65	60
(b) 9 subtracted from a number gives 81	400
(c) 5 times a number is 300	52
(d) $\frac{1}{4}$ of a number is 100	90

15. Jeena's age is 5 times her son's age. After two years, the sum of their ages will be 40.

(a) Use the information given and fill in the following table.

	Present age	Age after 2 years
Son's age	x	$x + 2$
Jeena's age

- (b) What is the present age of the son?
 (c) Find Jeena's present age.

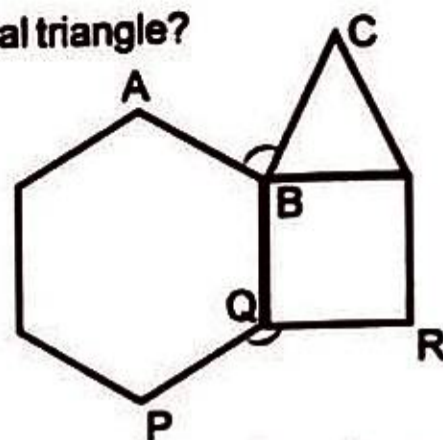
16. In the figure, a regular hexagon, a square and an equilateral triangle are joined together.

(a) What is the sum of the angles around the point B?

(b) What is the measure of an inner angle of an equilateral triangle?

(c) $\angle ABC = \dots\dots\dots$

(c) $\angle PQR = \dots\dots\dots$



17. The table represents relation between the sides and outer angles of regular polygons. Complete the table suitably.

Number of sides	Sum of outer angles	Measure of one outer angle
3	360	$\frac{360}{3} = 120^\circ$
4	360	$\frac{360}{4} = 90^\circ$
5	(a)	(b)
18	360	(c)
(d)	360	10°

18. Look at the number pattern given below and answer the following questions.

$$1 \times 3 = 3 = 2^2 - 1$$

$$2 \times 4 = 8 = 3^2 - 1$$

$$3 \times 5 = 15 = 4^2 - 1$$

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(a) Write the next line.

(b) $8 \times 10 = 80 = \dots\dots\dots$

(c) $\dots\dots\dots = 120 = 11^2 - 1$

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

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