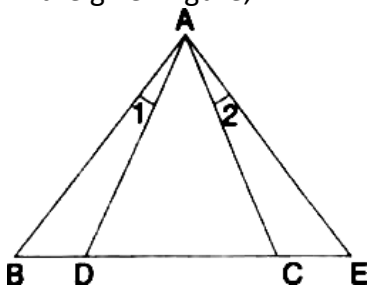


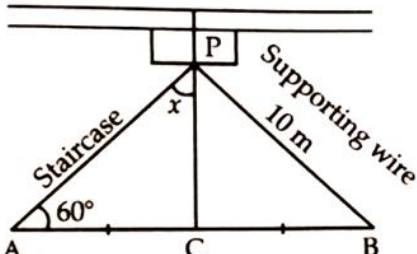
**BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA.**  
**SEPTEMBER ASSIGNMENT(2024-25)**  
**CLASS- IX (MATHEMATICS)**

**SECTION –A (MULTIPLE CHOICE QUESTIONS)**

|    |  |
|----|--|
| 1. | Two angles measure $(55^\circ + 3a)$ and $(115^\circ - 2a)$ . If each is supplement of the other, then calculate the value of a<br>(a) $20^\circ$ (b) $30^\circ$ (c) $10^\circ$ (d) $40^\circ$   |
| 2. | The angles of a triangle are in the ratio 2 : 3 : 7 then the triangle is<br>(a) an acute angled triangle      (b) an obtuse angled triangle<br>(c) a right triangle      (d) an isosceles triangle   |
| 3. | In $\Delta PQR$ , $PQ = PR$ and $\angle Q = 65^\circ$ , then find measure of $\angle P$ is<br>(a) $40^\circ$ (b) $50^\circ$ (c) $65^\circ$ (d) $80^\circ$  |
| 4  | Assertion (A) : Point $(8, -2)$ is the solution of a linear equation in two variable $x + y = 6$ .<br>Reason (R) : Every point which satisfy the linear equation in two variables is a solution of the equation.<br>(a) Both Assertion (A) and Reason (R) are the true and Reason (R) is a correct explanation of Assertion (A).<br>(b) Both Assertion (A) and Reason (R) are the true but Reason (R) is not the correct explanation of Assertion (A).<br>(c) Assertion (A) is true but Reason (R) is false.<br>(d) Assertion (A) is false and Reason (R) is true. |

**SECTION – B( 2 MARKS QUESTIONS)**

|    |   |
|----|---|
| 5. | In the given figure, $\angle B = \angle E$ , $BD = CE$ and $\angle 1 = \angle 2$ . Show that $\Delta ABC \cong \Delta AED$<br> |
| 6. | Factorise : $8x^3 - (2x - y)^3$   |

|                                 |   |
|---------------------------------|---|
| 7.                              | If the area of an equilateral triangle is $81\sqrt{3}\text{ cm}^2$ . Find its perimeter   |
| SECTION – C (3 MARKS QUESTIONS) |   |
| 8.                              | If a transversal intersect two lines such that the bisector of a pair of corresponding angles are parallel, then prove that two lines are parallel.   |
| 9.                              | Find the values of a & b<br>If $\frac{7+3\sqrt{5}}{3+\sqrt{5}} + \frac{7-3\sqrt{5}}{3-\sqrt{5}} = a+b\sqrt{5}$  |
| 10.                             | If $a + b + c = 5$ and $ab + bc + ca = 10$ , then prove that $a^3 + b^3 + c^3 - 3abc = -25$ .   |
| SECTION – D (5 MARKS QUESTIONS) |   |
| 11.                             | If x is positive real number and exponents are rational number then simplify:<br>$\left[\frac{x^b}{x^c}\right]^{b+c-a} \times \left[\frac{x^c}{x^a}\right]^{c+a-b} \times \left[\frac{x^a}{x^b}\right]^{a+b-c}$   |
| 12.                             | If the bisector of a vertical angle of a triangle also bisects the opposite side; prove that triangle is an isosceles triangle.   |
| 13.                             | Prove that every line segment has one and only one mid point.   |
| SECTION – E (CASE STUDY)        |   |
| 14.                             |  <p>As shown above:<br/>In Rajesh village there was a big pole PC. This pole was tied with a strong wire of 10 cm length. Once there was a big spark in this pole, thus wire got damages very badly. Any small fault was usually repaired with the help of a rope which normal board electricians were carrying on bicycles. This time electricians need a staircase of 10 m, so that it can reach at point P on the pole and this should make <math>60^\circ</math> with line AC.</p> <p>(i) In <math>\Delta PAC</math> and <math>\Delta PBC</math> which side is common?<br/>(ii) Find the value of <math>\angle x</math>?<br/>(iii) In figure, <math>\Delta PAC</math> and <math>\Delta PBC</math> are congruent due to which criteria?</p> |
| 15.                             | During tree plantation drive organized by the Gram Panchayat, three friends Yogesh, Munish and Ashwani planted some plants, when their friends asked them about the plants and total number of plants they planted. Ashwani cleverly answered that it is a single digit and two digit even number in the increasing order of Yogesh, Munish and me, such that a value of x  |

satisfying  $p(x) = x^3 - 30x^2 + 296x - 960$ .

(i) Find the number of plants, planted by Yogesh.

(ii) Find the number of plants, planted by Ashwani and Munish.

(iii) Find the constant difference of number of plants planted among three friends

**Syllabus of September Examination (2024-25)**

**Ch-1 Number system**

**Ch-2 Polynomials**

**Ch-3 Co-ordinate geometry**

**Ch-4 Linear equations in two variables**

**Ch-5 Introduction to Euclid's Geometry**

**Ch-6 Lines and Angles**

**Ch-7 Triangles**

**Ch-10 Heron's Formula**