

Holiday Assignment Class - IX

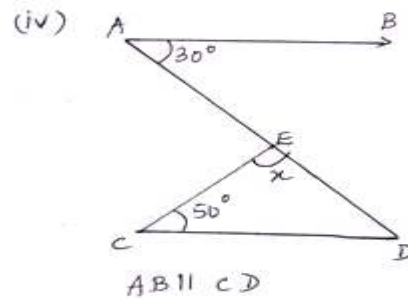
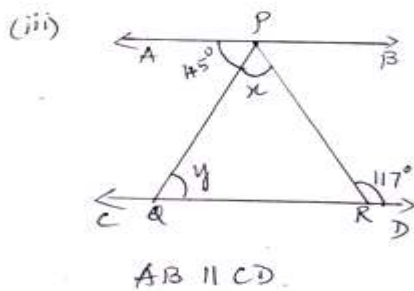
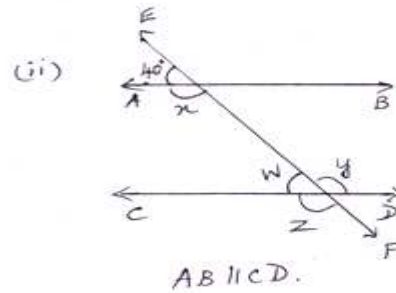
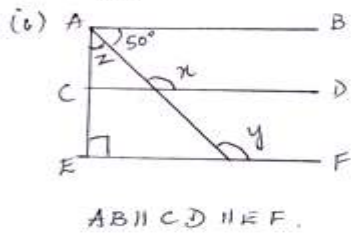
1. Express $0.\overline{14}$ as a fraction.
2. Express $\frac{3}{7}$ as a decimal expansion.
3. Add: $3\sqrt{2} + 5\sqrt{2} - 6\sqrt{3} - 4\sqrt{2} + 10\sqrt{3} + \sqrt{5} + 6 - 2$.
4. Multiply: $6\sqrt{7} \times -4\sqrt{2} \times 8\sqrt{3}$.
5. Rationalise the denominator: (i) $\frac{2}{3\sqrt{5}+2}$ (ii) $\frac{7}{6-\sqrt{3}}$
6. Simplify: (i) $\frac{3^2 \times 3^4 \times 2^6 \times 15^2}{2^9 \times 6^3}$
(ii) $\frac{(4^2)^3 \times 3^4}{2^2 \times 3^2}$
7. Find the zero of the following polynomials:
(i) $p(x) = 3x - 2$ (ii) $p(x) = 5x + 7$
8. Find the remainder when $x^3 - 2x^2 + 3x - 2$ is divided by $x + 1$ by using remainder theorem.
9. Divide: $2x^4 - 3x^3 + 2x^2 - x + 5$ by $x - 1$.
10. Factorise the following polynomials:
(i) $8a^3 - b^3 - 12a^2b + 6ab^2$.
(ii) $4x^2 + y^2 + 16z^2 - 4xy - 8yz + 16xz$.
(iii) $\frac{100x^2 - 81y^2}{9}$.
(iv) $x^2 + 2x - 15$.
(v) $3x^2 - x - 4$

11) Expand the following using identities:

(i) 98^3 (ii) 104^3 (iii) $(x+2)^3$ (iv) $(2x-1)^3$

(v) $8x^3 + 64y^3$.

12) Find the value of x, y, z & w in the following figures:



13. A park is in the shape of a quadrilateral $ABCD$, $\angle C = 90^\circ$, $AB = 10\text{m}$, $BC = 5\text{m}$, $CD = 12\text{m}$ and $AD = 7\text{m}$.
What is the area of the park?

14. Find the area of coloured paper used to make the following figure:

