14. Factorisation

Q 1 Factorise $2x + 4$.

Mark (1)

Q 2 Factorise $12a^2b + 15ab^2$.

Mark (1)

Q 3 Factorise $10x^2 – 14x^3 + 18x^4$

Mark (1)

Q 4 Factorise $20x^2y + 30axy$.

Mark (1)

Q 5 Factorise $x^2 + xy + 8x + 8y$.

Mark (1)

Q 6 Factorise $1 + a + ac + a^2c$.

Mark (1)

Q 7 Factorise $a^2 + bc + ab + ac$.

Mark (1)

Q 8 Factorise $x^2 – 36$ using identity.

Mark (1)

Q 9 Factorise $xy – pq + qy – px$.

Mark (1)

Q 10 Factorise $5a(2x – 3y) + 2b(2x - 3y)$.

Mark (1)

Q 11 Factorise $ax^2 + by^2 + bx^2 + ay^2$.

Marks (2)

Q 12 Factorise $8(4x + 5y)^2 – 12(4x + 5y)$.

Marks (2)

Q 13 Factorise using identity $x^2 + 10x + 25$.

Marks (2)

Q 14 Factorise using identity $4x^2 + 9y^2 + 12xy$.

Marks (2)

Q 15 Factorise $ax^2y + bxy^2 + cxyz$.

Marks (2)

Q 16 Factorise $15xy - 6x + 5y - 2$.

Marks (2)

Q 17 Factorise $6pq - 4q + 6 - 9p$.

Marks (2)

Q 18 Find the factors of $x^2 - 7x + 12$.

Marks (2)

Q 19 Find the factors of $3x^2 + 9x + 6$.

Marks (2)

Q 20 Factorise $(a + b)^2 - (a - b)^2$.

Marks (2)

Q 21 Factorise the expression $10ab + 4a + 5b + 2$.

Marks (3)

Q 22 Divide $24x^2y^2z^2$ by $6yz$.

Marks (3)

Q 23 Divide $(7a^2 + 14a)$ by $(a + 2)$.

Marks (3)

Q 24 Divide $x(5x^2 - 80)$ by $5x(x + 4)$.

Marks (3)

Q 25 Divide $x^2 + 7x + 10$ by $x + 5$.

Marks (3)

Q 26 Divide $12pq(9p^2 - 16q^2) \div 4pq(3p + 4q)$.

Marks (5)

Q 27 Divide $39x^3(50x^2 - 98)$ by $26x^2(5x + 7)$.

Marks (5)

Q 28 Find the factors of $25x^2 - 4y^2 + 28yz - 49z^2$.

Marks (5)

Most Important Questions

Q 1 Add $4x^2 + 2xy - 4$ & $7x^2 - 3xy + 4$.

Q 2 Subtract $7x - 3x^2$ from $4x + 8x^2$.

Q 3 Find the product of (7x - 4y) and (3x - 7y).

Q 4 Using suitable identity find $(7x - 3y)^2$.

Q 5 Using identity $(a-b)^2 = a^2 - 2ab + b^2$ find the value of 98^2.

Q 6 Subtract $3x(x - 4y + 5z)$ from $4x(2x - 3y + 10z)$.

Q 7 Multiply $(a^2 + 2c^2)(3a - 3c)$

Q 8 Using suitable identity find $(6x^2 - 5/3)^2$.

Q 9 Simplify $(xy + yz)^2 - (xy - yz)^2$.

Q 10 Using identity find the product of $\left(\frac{a}{2} + \frac{3b}{4}\right)\left(\frac{a}{2} + \frac{3b}{4}\right)$.

Q 11 If $x + \frac{1}{x} = 6$, find $x^2 + \frac{1}{x^2}$

Q 12 Find the product of $\left(\frac{5}{3}x + \frac{3}{4}y\right)^2 - \left(\frac{5}{3}x + \frac{3}{4}y\right)^2$ and also evaluate it when $x = +2$ and $y = -1$

Q 13 Using identity $a^2 - b^2 = (a+b)(a-b)$ find $(1.02)^2 - (0.98)^2$

Q 14 If $x + y = 12$ and $xy = 32$. Find the value of $x^2 + y^2$.

Q 15 Simplify $(xy + yz)^2 - 2x^2y^2z$ find the value when $x = -1$, $y = 1$ and $z = 2$

Q 16 Subtract $4x^2 - 2y + 7z^3 - 3$ from $3y + 7x^2 - 2z^3 + 4$

Q 17 Divide $-72x^2yz$ by $-12xyz$

Q 18 Divide $9m^5 + 12m^4 - 6m^2$ by $3m^2$

Q 19 Divide $\frac{2}{3}a^2b^2c^2 + \frac{4}{3}ab^2c^3 - \frac{1}{5}ab^3c^2$ by $\frac{1}{2}abc$

Q 20 Divide $6 + x - 4x^2 + x^3$ by $x - 3$ by long division method.

Q 21 Divide $12x^3 - 8x^2 - 6x + 10$ by $3x - 2$ Write the quotient and the remainder.

Q 22 Divide $x^3 - 6x^2 + 11x - 6$ by $x^2 - 4x + 3$.

Q 23 Find whether $x + 1$ is factor of $2x^2 + 5x + 4$ or not.

Q 24 Divide the following $63a^2b^4c$ by $7a^2b^2c$.

Q 25 Divide the polynomial $5x\left(x^2 - x + 1\right) - \left(9 + 4x^4\right)$ by $4x - 1$. Write quotient and remainder.

Q 26 Divide the polynomial $x^3 + 3x^2 - 5x + 4$ by $x - 1$. Write quotient and remainder.

Q 27 Divide $z(5z^2 - 80)$ by $5z(z + 4)$.