



REET 2025

LEVEL-2



वंदन बैच

MATHS

Algebra

(बीजगणित)

Part -2



LIVE

30-01-2025 05:00 PM



1. The factor of $\{x^4 - (x - y)^4\}$ is :

$\{x^4 - (x - y)^4\}$ का गुणनखण्ड है:

~~(a)~~ $y(2x - y)(2x^2 - 2xy + y^2)$

~~(b)~~ $y(2x + y)(2x^2 + 2xy + y^2)$

~~(c)~~ $x(2x - y)(2x^2 - 2xy - y^2)$

~~(d)~~ $x(2x + y)(2x^2 + 2xy + y^2)$

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$$m^2 - n^2 = (m+n)(m-n)$$

$$(m-n)^2 = m^2 + n^2 - 2mn$$

$$x^4 - (x-y)^4$$

$$\frac{(x^2)^2}{m^2} - \left[\frac{(x-y)^2}{n^2} \right]^2$$

$$(x^2 + (x-y)^2)(x^2 - (x-y)^2)$$

$$\begin{aligned} & [x^2 + x^2 + y^2 - 2xy] [x^2 - \{x^2 + y^2 - 2xy\}] \\ & [2x^2 + y^2 - 2xy] [\cancel{x^2} - \cancel{x^2} - y^2 - 2xy] \end{aligned}$$



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बंदन बैच MATHS

2. If $(\sqrt{3})^5 \times 9^2 = 3^x \times 3\sqrt{3}$, then the value of x is:

यदि $(\sqrt{3})^5 \times 9^2 = 3^x \times 3\sqrt{3}$ हो, तो x का मान है:

(a) 4

☒ (b) 5

(c) 6

(d) 7

$$\sqrt{x} = (x)^{1/2}$$

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$$\begin{aligned}
 (\sqrt{3})^5 \times 9^2 &= 3^x \times 3\sqrt{3} \\
 (3^{1/2})^5 \times (3^2)^2 &= 3^x \times 3^1 \times 3^{1/2} \\
 3^{5/2} \times 3^4 &= 3^x \times 3^{3/2} \\
 \frac{3^{5/2}}{3^{3/2}} &= \frac{3^{5/2} \times 3^4}{3^{3/2} \times 3^4} = 3^x \\
 3^{5/2 - 3/2} &= 3^x \\
 3^1 &= 3^x \\
 3 &= 3 \\
 3^1 &= 3^x \\
 x &= 5
 \end{aligned}$$



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चंदन बैच

MATHS

$$x - \frac{1}{x} = 8$$

$$x^2 + \frac{1}{x^2} = ?$$

$$x + \frac{1}{x} = \sqrt{8^2 + 4} = \sqrt{68}$$

$$x^2 + \frac{1}{x^2} = \left(\sqrt{68}\right)^2 - 2$$

$$= 68 - 2 = 66$$

3. If $\left(x - \frac{1}{x}\right) = 8$, then the value of $\left(x^2 + \frac{1}{x^2}\right)$ is:

यदि $\left(x - \frac{1}{x}\right) = 8$ हो, तो $\left(x^2 + \frac{1}{x^2}\right)$ का मान है:

(a) 64

(b) 68

✓ (c) 66

(d) 4354

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Revise:

$$x - \frac{1}{x} = k$$

$$x + \frac{1}{x} = \sqrt{k^2 + 4} = a$$

$$x^2 + \frac{1}{x^2} = a^2 - 2$$



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बंदन बैच MATHS

$$3 \times 3 = 9$$
$$3 \times 3 \times 3 = 27 = 3^3$$
$$3 \times 3 \times 3 \times 3 \times 3 = 243 = 3^5$$

$$27^{2x-1} = 243^3$$

$$(3^3)^{2x-1} = (3^5)^3$$

$$3^{3(2x-1)} = 3^{15}$$

$$3(2x-1) = 15$$

$$2x-1 = 5$$

$$2x = 6$$

$$x = 3$$

4. If $27^{(2x-1)} = (243)^3$, then the value of x is

यदि $27^{(2x-1)} = (243)^3$ हो, तो x का मान है:

- (a) 3
- (b) 4
- (c) 2
- (d) 5

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बंदन बैच

MATHS

5. A factor of the expression $x^2 - 2x + 1$ is :

व्यंजक $x^2 - 2x + 1$ का एक गुणनखण्ड है :

$x^2 - 2x + 1$ का factor

$$\underline{x^2 - x - x + 1}$$

$$x(x-1) - 1(x-1)$$

$$(x-1)(x-1)$$

✓ (a) $x - 1$

(b) $x + 1$

(c) $x + 2$

(d) $x - 2$

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MATHS

6. The solution of the equation $\frac{2}{3x-4} + \frac{2}{2x-6} = 0$

is : समीकरण $\frac{2}{3x-4} + \frac{2}{2x-6} = 0$ का हल है :

$$\frac{2}{3x-4} + \frac{2}{2x-6} = 0$$

$x=2,$ $\frac{\cancel{2}}{\cancel{2}} + \frac{2}{4-6} = 0$ $x=?$

$$1 + \frac{2}{-2} = 0$$
$$1 - 1 = 0$$

☒ (a) 0

☒ (b) 1

☒ (c) 3

☒ (d) 2

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बंदन बैच MATHS

$$3^{(x+8)} = 27^{2x+1}$$

$$3^{x+8} = (3^3)^{2x+1}$$

$$3^{x+8} = 3^{6x+3}$$

$$x+8 = 6x+3$$

$$5 = 5x$$

$$x = 1$$

7. If $3^{(x+8)} = 27^{(2x+1)}$, then the value of x is :

यदि $3^{(x+8)} = 27^{(2x+1)}$, हो तो x का मान है ?

(a) 0

☒ (b) 1

(c) 2

(d) 3

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वंदन बैच MATHS

$$\begin{aligned}x + y &= 7 \text{ --- (1)} \\x^2 + y^2 &= 25 \text{ --- (2)}\end{aligned}$$
$$\frac{1}{x} + \frac{1}{y} = \frac{y+x}{xy} = \frac{7}{12}$$

8. If $x + y = 7$ and $x^2 + y^2 = 25$, then the value of $\left(\frac{1}{x} + \frac{1}{y}\right)$ is :

यदि $x + y = 7$ और $x^2 + y^2 = 25$ हो तो $\left(\frac{1}{x} + \frac{1}{y}\right)$ का

मान है:

(a) $\frac{12}{7}$

(b) $\frac{7}{25}$

(c) $\frac{7}{12}$

(d) $\frac{1}{10}$

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वंदन बैच

MATHS

$$\frac{(30)^{-5} \times 5^{12}}{625 \times 6^{-5}}$$

$$\frac{6^5 \times 5^{12}}{5^4 \times 30^5} = \frac{6^5 \times 5^8}{6^5 \times 5^5} = 5^3 = 125$$

9. The value of $\frac{(30)^{-5} \times 5^{12}}{625 \times 6^{-5}}$ is :

$\frac{(30)^{-5} \times 5^{12}}{625 \times 6^{-5}}$ का मान है :

(a) 25

(b) 5

☒ (c) 125

(d) 625

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REET 2025 LEVEL-2 वंदन बैच MATHS

$$\frac{6^{2x+1}}{216} = 36$$

$$\frac{6^{2x+1}}{6^3} = 6^2$$

$$6^{2x+1-3} = 6^2$$

$$2x+1-3=2$$

$$2x-2=2$$

$$2x=4$$

$$x=2$$

10. If $(6)^{(2x+1)} \div 216 = 36$ then the value of x is:

यदि $(6)^{(2x+1)} \div 216 = 36$ तब x का मान है

(a) 1

(c) 0

✓ (b) 2

(d) 0.5

$$x^m = x^n$$

$$\boxed{m=n}$$

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$$\frac{\cancel{6 \times 6 \times 6 \times 6 \times 6}}{\cancel{6 \times 6 \times 6}} = 36$$



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बंदन बैच

MATHS

11. By subtracting $-5x^2 + 7y^2 - 4xy$ from $3xy + 2y^2 - 2x^2$ we get the expression

$$3xy + 2y^2 - 2x^2 - (-5x^2 + 7y^2 - 4xy)$$

$$3xy + 2y^2 - 2x^2 + 5x^2 - 7y^2 + 4xy$$

$$7xy - 5y^2 + 3x^2$$

$3xy + 2y^2 - 2x^2$ में से $-5x^2 + 7y^2 - 4xy$ को घटाने पर प्राप्त व्यंजक है:

☒ (a) $7xy - 5y^2 + 3x^2$

☐ (b) $-7xy + 7y^2 - 3x^2$

☐ (c) $7xy + 7y^2 + 3x^2$

☐ (d) $xy - 9y^2 - 7x^2$

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वंदन बैच

MATHS

12. Factors of expression $9a^2 - 9ab - 40b^2$

are : व्यंजक $9a^2 - 9ab - 40b^2$ का गुणनखण्ड है

$$9a^2 - 9ab - 40b^2$$

$$9a^2 - 24ab + 15ab - 40b^2$$

$$3a(3a - 8b) + 5b(3a - 8b)$$

$$(3a - 8b)(3a + 5b)$$

9x40
360
24x15

(a) $(3a + 5b)(3a - 5b)$

(b) $(3a + 5b)(3a - 8b)$

(c) $(3a - 5b)(3a + 8b)$

(d) $(3a + 8b)(3a - 8b)$

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MATHS

13. The value of $(x^2 + 7x + 10) \div (x + 2)$ is :

$(x^2 + 7x + 10) \div (x + 2)$ का मान है :

(a) $(x + 1)$

(b) $(x + 3)$

(c) $(x + 2)$

✓ (d) $(x + 5)$

$$\frac{x^2 + 7x + 10}{x + 2}$$

$$x + 2$$

$$x = 2$$

$$\frac{4 + 14 + 10}{4}$$

$$4$$

$$\frac{28}{4} = 7$$

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