

(EMC01-0016H)

- The roots of equation $2^{2x} - 10 \cdot 2^x + 16 = 0$ are
 - A) 1, 3
 - B) 1, 8
 - C) 2, 3
 - D) 2, 8

(EMC01-0017M)

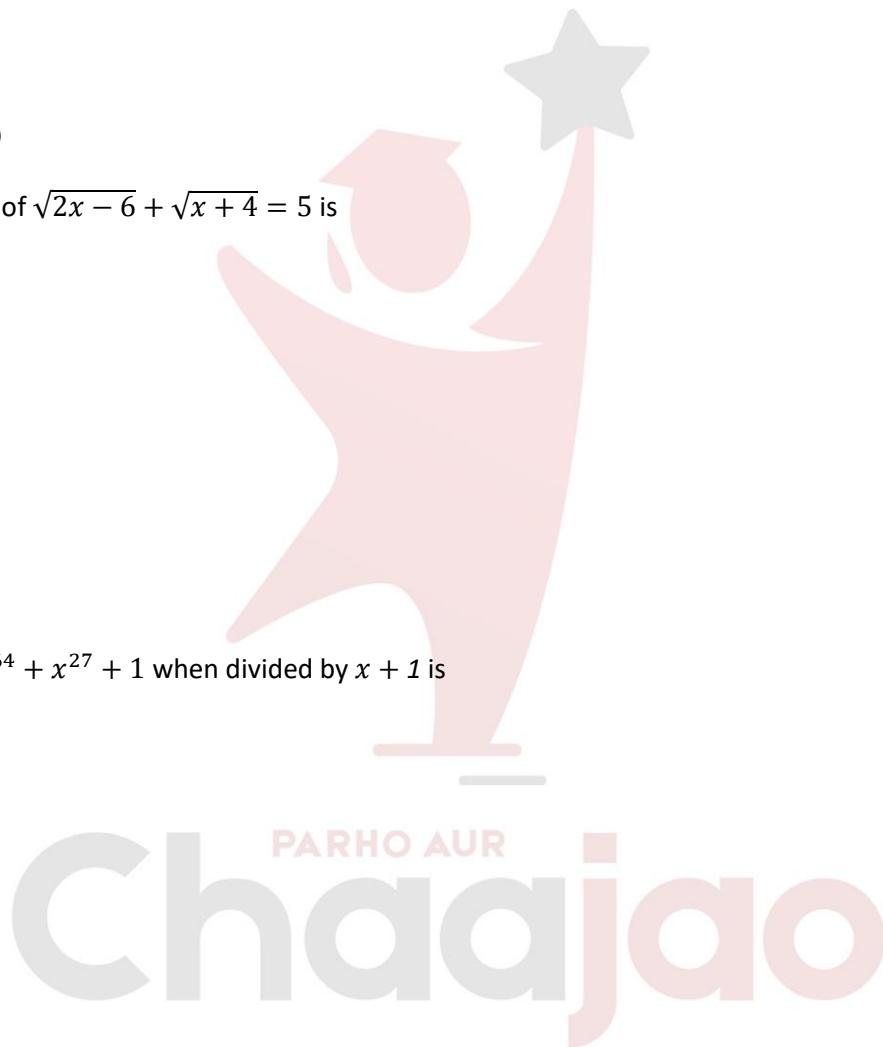
- The solution set of $\sqrt{2x - 6} + \sqrt{x + 4} = 5$ is
 - A) {5}
 - B) {0, 5}
 - C) {1, 3}
 - D) {3, 5}

(EMC01-0018E)

- Remainder of $x^{64} + x^{27} + 1$ when divided by $x + 1$ is
 - A) 0
 - B) 1
 - C) 2
 - D) 3

(EMC01-0019M)

- $x^2 + x + 1 + 2k(x^2 - x - 1)$ is a perfect square for how many values of k ?
 - A) 0
 - B) 1
 - C) 2
 - D) 3



(EMC01-0020E)

- Both the roots of the equation $x^2 - x - 3 = 0$ are
 - A) real and rational
 - B) real and irrational
 - C) real and equal
 - D) imaginary roots

(EMC01-0021E)

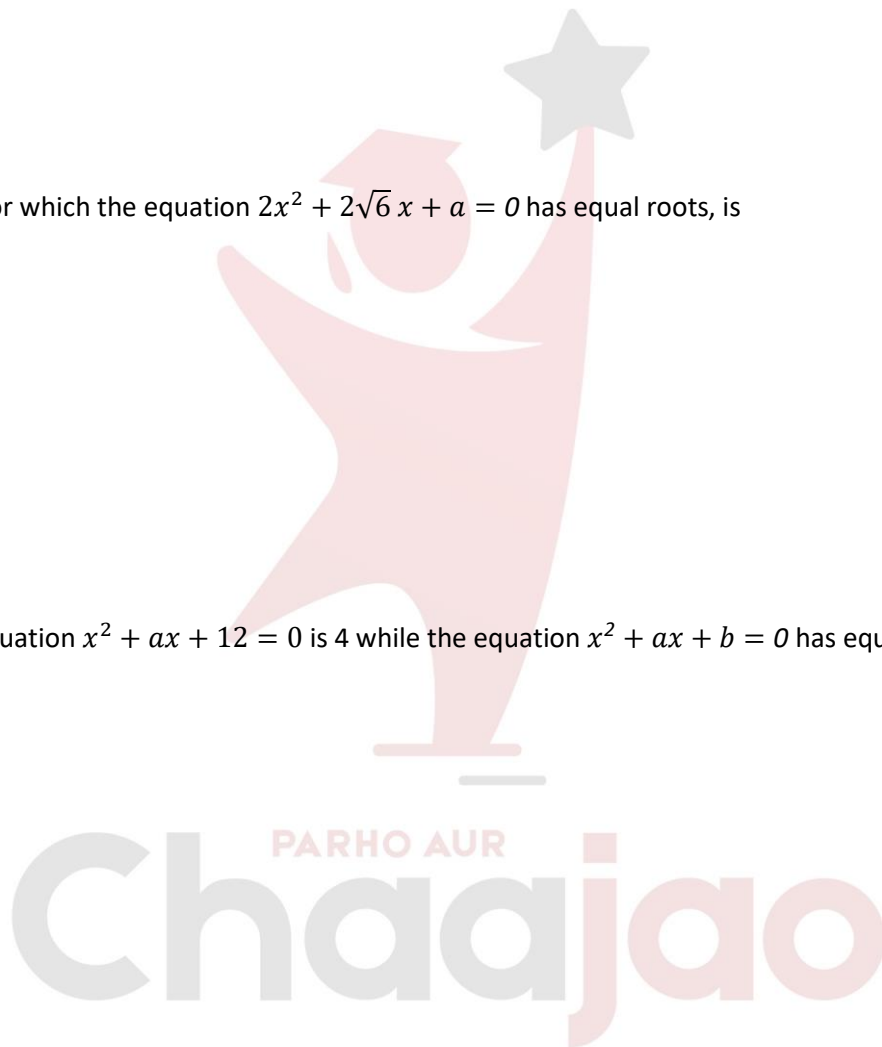
- The value of a for which the equation $2x^2 + 2\sqrt{6}x + a = 0$ has equal roots, is
 - A) $\sqrt{2}$
 - B) $\sqrt{3}$
 - C) 2
 - D) 3

(EMC01-0022M)

- If one root of equation $x^2 + ax + 12 = 0$ is 4 while the equation $x^2 + ax + b = 0$ has equal roots, then the value of b is
 - A) $\frac{4}{7}$
 - B) $\frac{7}{4}$
 - C) $\frac{4}{49}$
 - D) $\frac{49}{4}$

(EMC01-0023H)

- One root of $mx^2 - 14x + 8 = 0$ is 6 times the other root. Then m is equal to
 - A) 1
 - B) 2
 - C) 3
 - D) None of these



(EMC01-0024M)

- If $\alpha + \beta = 4$ and $\alpha^3 + \beta^3 = 44$, then α, β are the roots of the equation
 - $2x^2 - 7x + 6 = 0$
 - $3x^2 - 12x + 5 = 0$
 - $4x^2 + 22x + 15 = 0$
 - $9x^2 - 27x + 20 = 0$

(EMC01-0025M)

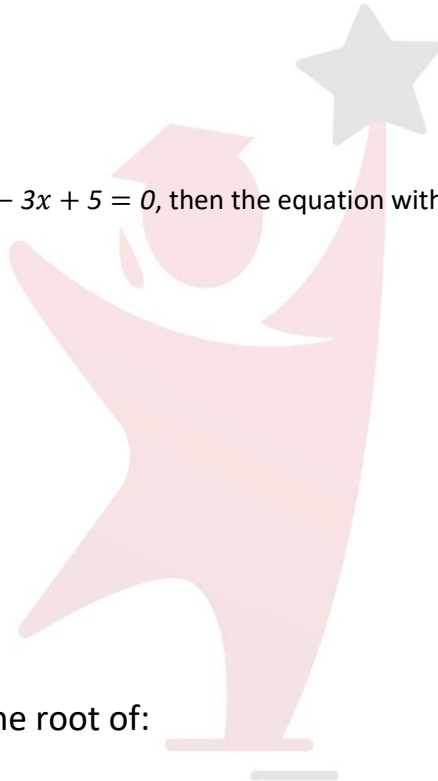
- If $\{\alpha, \beta\}$ is the solution set of $2x^2 - 3x + 5 = 0$, then the equation with solution set $\{\alpha^2 + 1, \beta^2 + 1\}$ is
 - $4x^2 - 3x - 18 = 0$
 - $4x^2 - 3x + 18 = 0$
 - $4x^2 - 3x + 18 = 0$
 - $4x^2 + 3x + 18 = 0$

(EMC01-0026E)

- $x = \frac{-b - \sqrt{b^2 - 4ac}}{-2a}$ is one of the root of:
 - $ax^2 - bx + c = 0$
 - $-ax^2 - bx - c = 0$
 - $ax^2 - bx - c = 0$
 - $-ax^2 + bx - c = 0$

(EMC01-0027E)

- $x = 9$ is a root of equation:
 - $(x - 7)(x + 3)(x + 1)(x + 5) - 1680 = 0$
 - $(x - 7)(x - 3)(x + 1)(x + 5) - 1680 = 0$
 - $(x + 7)(x + 3)(x + 1)(x + 5) - 1680 = 0$
 - (a) and (b)



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(EMC01-0028E)

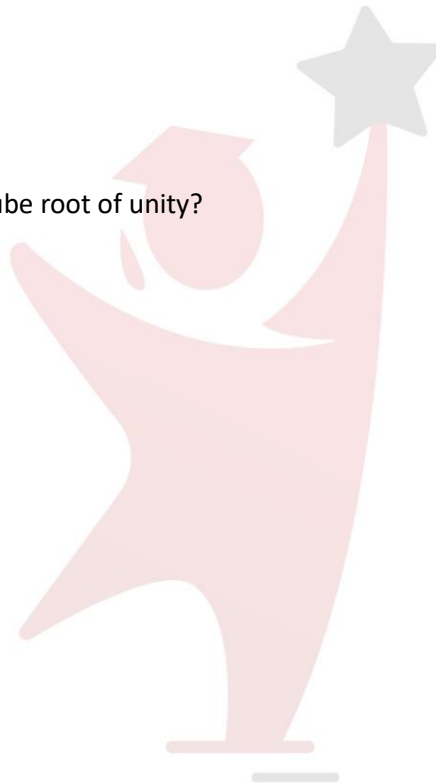
- An equation, which remains unchanged when x is replaced by $\frac{1}{x}$ is:
 - A) Exponential equation
 - B) Reciprocal equation
 - C) Linear equation
 - D) (a) and (b)

(EMC01-0029E)

- Which one is not the imaginary cube root of unity?
 - A) 1
 - B) $\frac{-1+\sqrt{3}i}{2}$
 - C) $\frac{-1-\sqrt{3}i}{2}$
 - D) All of these

(EMC01-0030M)

- If $\frac{n}{3}$ is an integer, then $\omega^{n^3} + \omega^{3^n} =$
 - A) 1
 - B) ω
 - C) ω^2
 - D) 2



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Answer key	
1	A
2	A
3	B
4	C
5	B
6	D
7	D
8	C
9	B
10	D
11	D
12	B
13	B
14	A
15	D

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