

(EMC01-0002M)

- The geometric mean of the roots of the equation $x^2 - 18x + 9 = 0$ is
 - A) 3
 - B) $3\sqrt{2}$
 - C) 9
 - D) $9\sqrt{2}$

(EMC01-0004M)

- The value of k for which the quadratic equation $x^2 - 2x(1 + 3k) + 7(2k + 3) = 0$ has equal roots, is
 - A) 1
 - B) 2
 - C) 3
 - D) 4

(EMC01-0006E)

- If a and b are roots of $x^2 - px + q = 0$, then $\frac{1}{a} + \frac{1}{b}$ is equal to
 - A) $\frac{-p}{q}$
 - B) $\frac{1}{2p}$
 - C) $\frac{-1}{q}$
 - D) $\frac{p}{q}$

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(EMC01-0008M)

- If $1 - i$ is a root of the equation $x^2 + ax + b = 0$, then b is equal to
 - A) -2
 - B) -1
 - C) 1
 - D) 2

(EMC01-0010H)

- If α and β are the roots of the equation $x^2 + 2x + 4 = 0$, then $\frac{1}{\alpha^3} + \frac{1}{\beta^3}$ is equal to
 - $-\frac{1}{2}$
 - $\frac{1}{2}$
 - $\frac{1}{4}$
 - $\frac{1}{6}$

(EMC01-0012M)

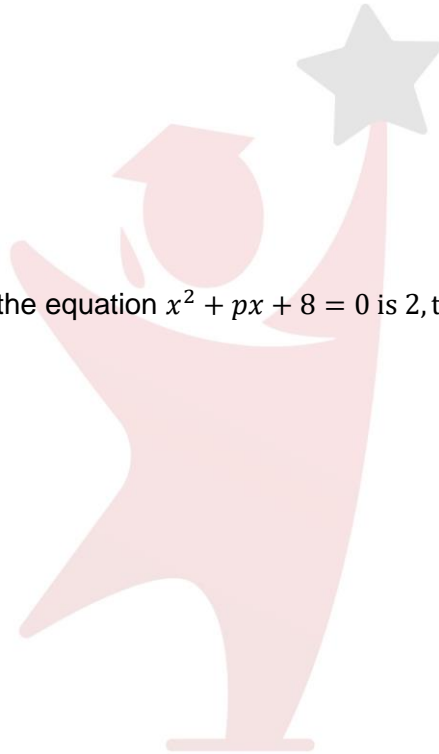
- If the difference of the roots of the equation $x^2 + px + 8 = 0$ is 2, then p equals
 - ± 2
 - $-6, 2$
 - $-2, 6$
 - ± 6

(EMC01-0014M)

- For what value of m , the ratio of the roots of the equation $12x^2 - mx + 5 = 0$ is 3 : 2?
 - $5\sqrt{10}$
 - $10\sqrt{5}$
 - $25\sqrt{2}$
 - $15\sqrt{5}$

(EMC01-0016H)

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



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(EMC01-0018E)

- Remainder of $x^{64} + x^{27} + 1$ when divided by $x + 1$ is
 - 0
 - 1
 - 2
 - 3

(EMC01-0020E)

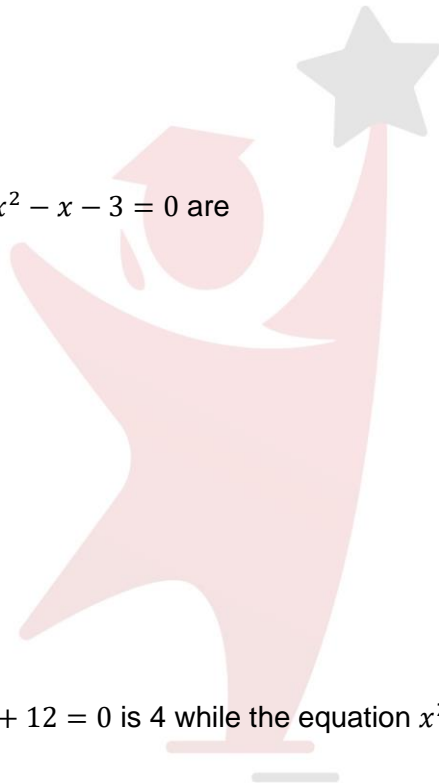
- Both the roots of the equation $x^2 - x - 3 = 0$ are
 - real and rational
 - real and irrational
 - real and equal
 - imaginary roots

(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
 - $\frac{4}{7}$
 - $\frac{7}{4}$
 - $\frac{4}{49}$
 - $\frac{49}{4}$

(EMC01-0024M)

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



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(EMC01-0026E)

• $x = \frac{-b - \sqrt{b^2 - 4ac}}{-2a}$ is one of the root of:

- A) $ax^2 - bx + c = 0$
- B) $-ax^2 - bx - c = 0$
- C) $ax^2 - bx - c = 0$
- D) $-ax^2 + bx - c = 0$

(EMC01-0028E)

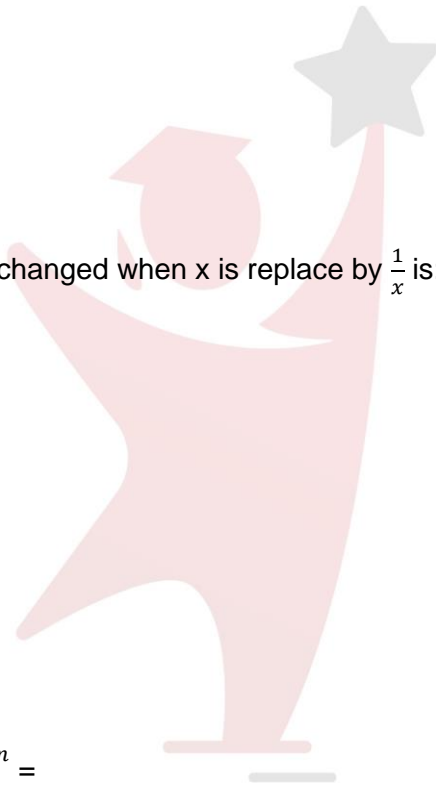
• An equation, which remains unchanged when x is replace by $\frac{1}{x}$ is:

- A) Exponential equation
- B) Reciprocal equation
- C) Linear equation
- D) (a) and (b)

(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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Answers Key	
1	A
2	B
3	D
4	D
5	C
6	D
7	A
8	A
9	B
10	B
11	D
12	B
13	D
14	B
15	D

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