(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) $-ax^2 + bx – c = 0$

(EMC01-0027E)

- x = 9 is a root of equation:

a) (x – 7) (x + 3) (x + 1) (x + 5) – 1680 = 0

b) (x – 7)(x – 3)(x + 1)(x + 5) – 1680 = 0

c) (x + 7)(x + 3)(x + 1)(x + 5) – 1680 = 0

d) (a) and (b)

(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)

(EMC01-0029E)

- 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

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(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

(EMC01-0031E)

- If $x^n + a^n$ is divided by x + a, then remainder will be:

A) 0
B) $2a^n$
C) a^n
D) (a)or(b)

(EMC01-0032M)

- Polynomial $x^3 + kx^2 - 7x + 6$ has remainder -4, when divided by x + 2, if k =

A) 4
B) -4
C) 0
D) 2

(EMC01-0033E)

- Roots of equation $2x^2 - 7x + 3 = 0$ will be:

A) Rational
B) Irrational
C) Imaginary
D) Equal

(EMC01-0034E)

- The nature of the roots of $4x^2 - 7x - 2 = 0$

A) Rational
B) Irrational
C) Complex
D) Equal

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(EMC01-0035M)

- The middle term to make the expression $x^2 + 16/25$ a perfect square is

  A) $\pm \frac{8x}{5}$
  B) $\pm \frac{1}{5}x$
  C) $\frac{8}{5}$
  D) $\pm 8x$

(EMC01-0036H)

- If α, β are the roots of the equation $2x^2 + 3x + 4 = 0$, then the equation whose roots are α/β and β/α is

  A) $8x^2 + 7x + 8 = 0$
  B) $8x^2 + 6x + 8 = 0$
  C) $8x^2 + 5x + 8 = 0$
  D) $8x^2 + 4x + 8 = 0$

(EMC01-0037E)

- If the parameter is eliminated from the equations $x = t^2 + 1$ and $y = 2t$, then the relation between x and y is

  A) $y^2 = 4x - 4$
  B) $y = 1 - x$
  C) $y^2 = x - 1$
  D) $y^2 = (x - 1)^2$

(EMC01-0038H)

- Two quadratic equations in which xy term is missing and the coefficients of x^2 and y^2 are equal, give a linear equation by ……

  A) Addition
  B) subtraction
  C) multiplication
  D) division

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(EMC01-0039M)

- If α, β are roots of $2x^2 - 4x + 5 = 0$ then $(\alpha + 1)(\beta + 1) =$ ……..

A) $\frac{11}{2}$
B) $-\frac{11}{2}$
C) $\frac{2}{11}$
D) $-\frac{2}{11}$

(EMC01-0040M)

- If ω is complex cube root of unity then $\omega^{29} + \omega^{28} + 1 =$ ……..

A) 0
B) 1
C) 2
D) 3

(EMC01-0041E)

- If $x^3 + ax^2 - a^2x - a^3$ is divided by x + a, then the remainder is

A) $-a^3$
B) a^3
C) $2a^3$
D) 0

(EMC01-0042M)

- Which of the following is a factor of $x^3 - 3x^2 + 2x - 6$

A) x + 2
B) x + 3
C) x – 3
D) x – 4

(EMC01-0043E)

- Find a if 1 is a root of the equation $x^2 + ax + 2 = 0$

A) 3
B) –3
C) 2
D) 0

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(EMC01-0044E)

- The product of the four fourth roots of unity is

A) 0
B) 1
C) -1
D) i

(EMC01-0045E)

- For any integer k, w^n _____ when n = 3k

A) 1
B) 2
C) 0
D) -4

(EMC01-0046E)

- $3p^2 = 5p + 2$ and $3q^2 = 5q + 2$ where $p \neq q$, then *pq* is

A) $-\frac{3}{2}$
B) $-\frac{2}{3}$
C) $\frac{2}{3}$
D) $\frac{3}{2}$

(EMC01-0047M)

- let a > 0, *b* > 0 and *c* < 0. Then, both the roots of the equation $ax^2 + bx + c = 0$

A) are rational numbers
B) are real and negative
C) have negative real parts
D) are real and positive

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(EMC01-NE-NQ-02)

- Let α and $\beta(\alpha > \beta)$be the roots of the equation $x^2 - 8x + q = -0$. $If\ \alpha^2 - \beta^2$ then what is the value of q?
  A) -15
  B) -10
  C) 10
  D) 15

(EMC01-NE-NQ-03)

- If the roots of the equation $4x^2 - (5k + 1)x + 5k = 0$ differ by unity, then which one of the following is a possible value of k?
  A) -3
  B) -1
  C) $-\frac{1}{5}$
  D) $-\frac{3}{5}$

(EMC01-NE-NQ-04)

- If k is one of the roots of the equation $x(x + 1) + 1 = 0$ then what is the other root?
  A) 1
  B) -k
  C) k^2
  D) $-k^2$

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Answer Key	
1	D
2	B
3	B
4	A
5	D
6	D
7	B
8	A
9	A
10	A
11	A
12	A
13	B
14	A
15	A
16	D
17	C
18	B
19	C
20	A
21	B
22	C
23	D
24	C
25	C

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