

(EMC01-0001E)

- If $(x - a)$ is a factor of the polynomial $x^6 - ax^5 + x^4 - ax^3 + 3x + a - 2$, then the value of a is
 - A) 1
 - B) $\frac{1}{2}$
 - C) $\frac{1}{3}$
 - D) 2

(EMC01-0002M)

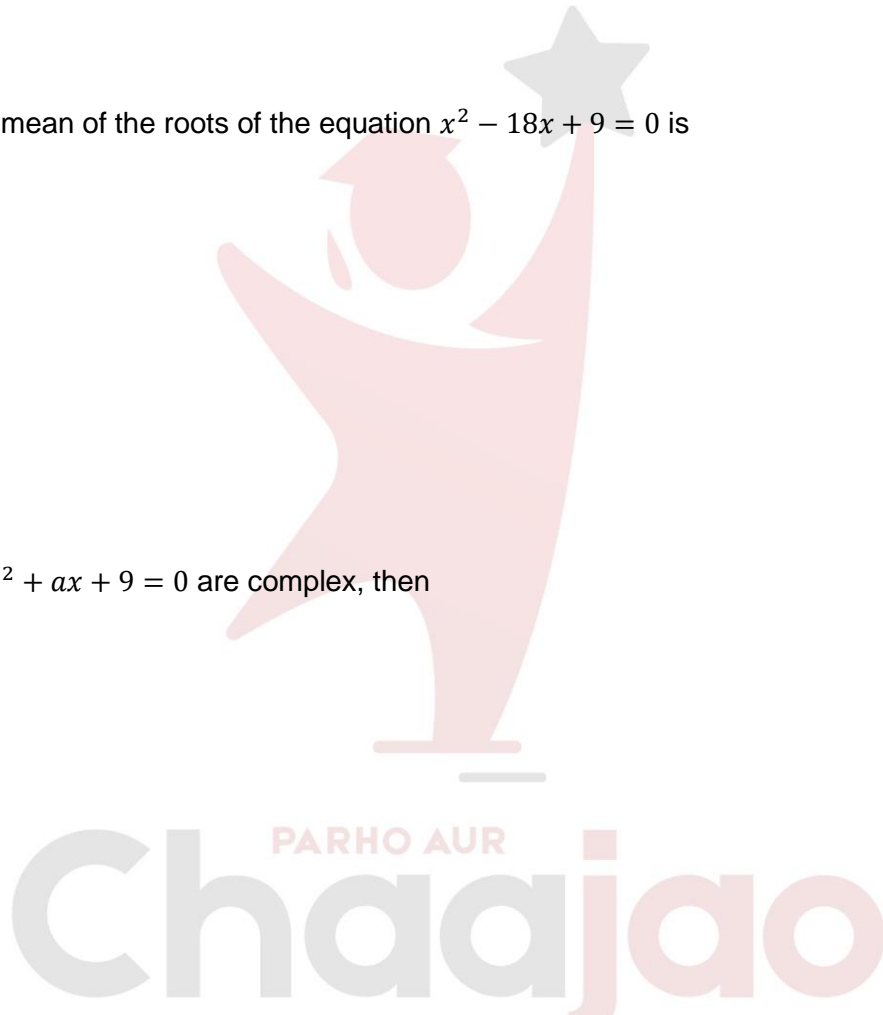
- The geometric mean of the roots of the equation $x^2 - 18x + 9 = 0$ is
 - A) 3
 - B) $3\sqrt{2}$
 - C) 9
 - D) $9\sqrt{2}$

(EMC01-0003M)

- If the roots of $x^2 + ax + 9 = 0$ are complex, then
 - A) $a < -6$
 - B) $a < 6$
 - C) $|a| < 6$
 - D) $|a| > 6$

(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



(EMC01-0005E)

- If the product of roots of the equation $mx^2 + 6x + (2m - 1) = 0$ is -1 , then the value of m is
 - A) -1
 - B) $-\frac{1}{3}$
 - C) $\frac{1}{3}$
 - D) 1

(EMC01-0006E)

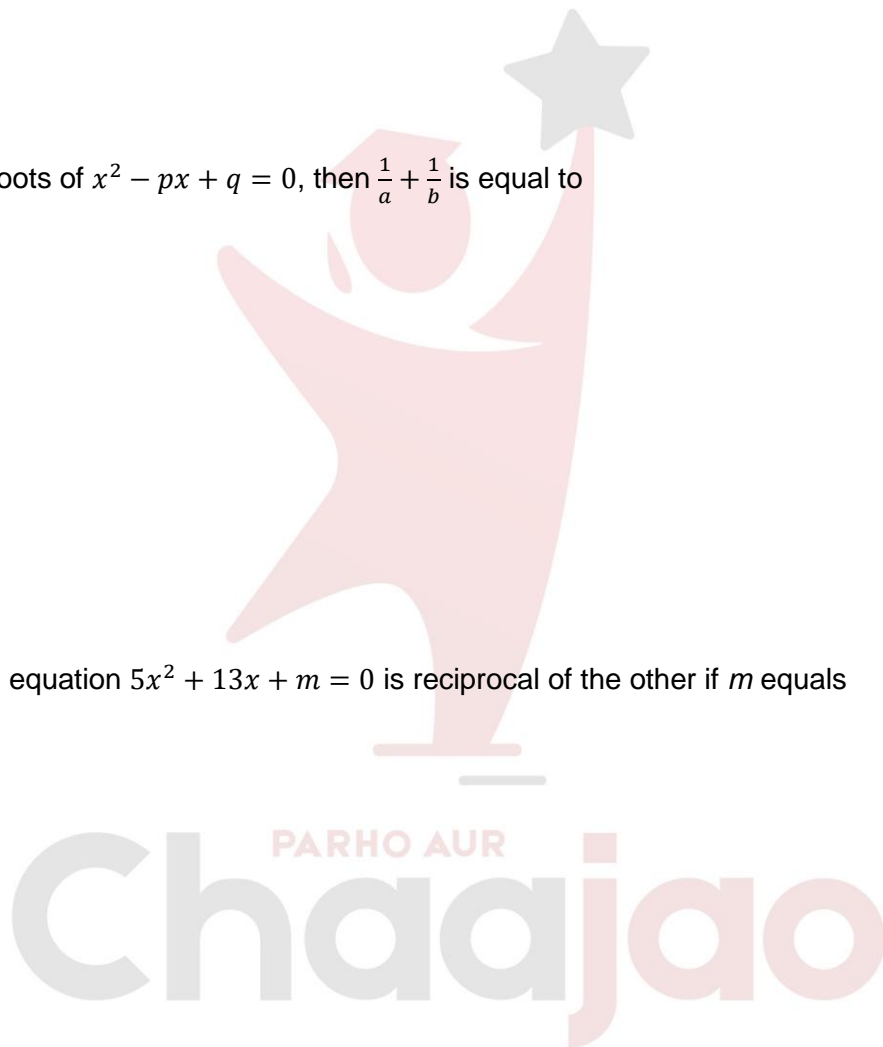
- If a and b are roots of $x^2 - px + q = 0$, then $\frac{1}{a} + \frac{1}{b}$ is equal to
 - A) $\frac{-p}{q}$
 - B) $\frac{1}{2p}$
 - C) $\frac{-1}{q}$
 - D) $\frac{p}{q}$

(EMC01-0007M)

- One root of the equation $5x^2 + 13x + m = 0$ is reciprocal of the other if m equals
 - A) 0
 - B) 5
 - C) $\frac{1}{6}$
 - D) 6

(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



(EMC01-0009E)

- If α and β are the roots of $4x^2 + 3x + 7 = 0$, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is
 - $-\frac{3}{7}$
 - $-\frac{3}{4}$
 - $\frac{3}{7}$
 - $\frac{4}{7}$

(EMC01-0010H)

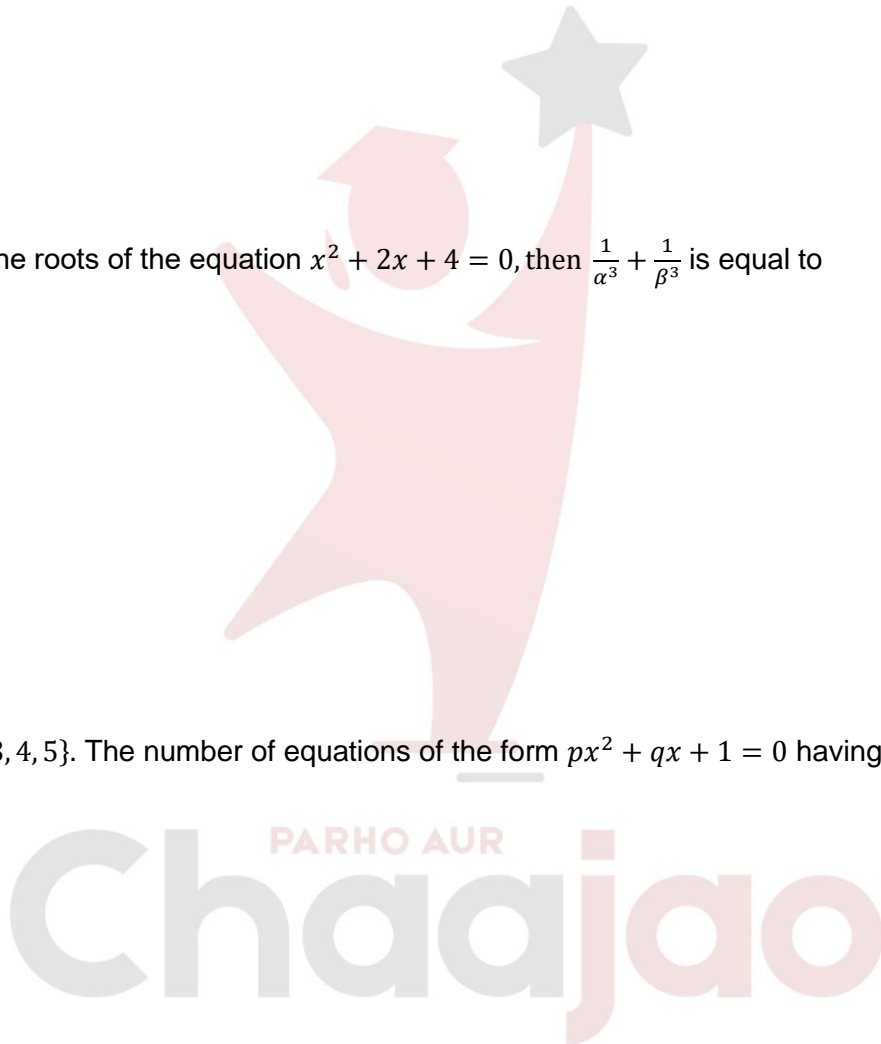
- If α and β are the roots of the equation $x^2 + 2x + 4 = 0$, then $\frac{1}{\alpha^3} + \frac{1}{\beta^3}$ is equal to
 - $-\frac{1}{2}$
 - $\frac{1}{2}$
 - $\frac{1}{4}$
 - $\frac{1}{6}$

(EMC01-0011H)

- Let $p, q \in \{1, 2, 3, 4, 5\}$. The number of equations of the form $px^2 + qx + 1 = 0$ having real roots, is
 - 7
 - 8
 - 9
 - 12

(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



(EMC01-0013M)

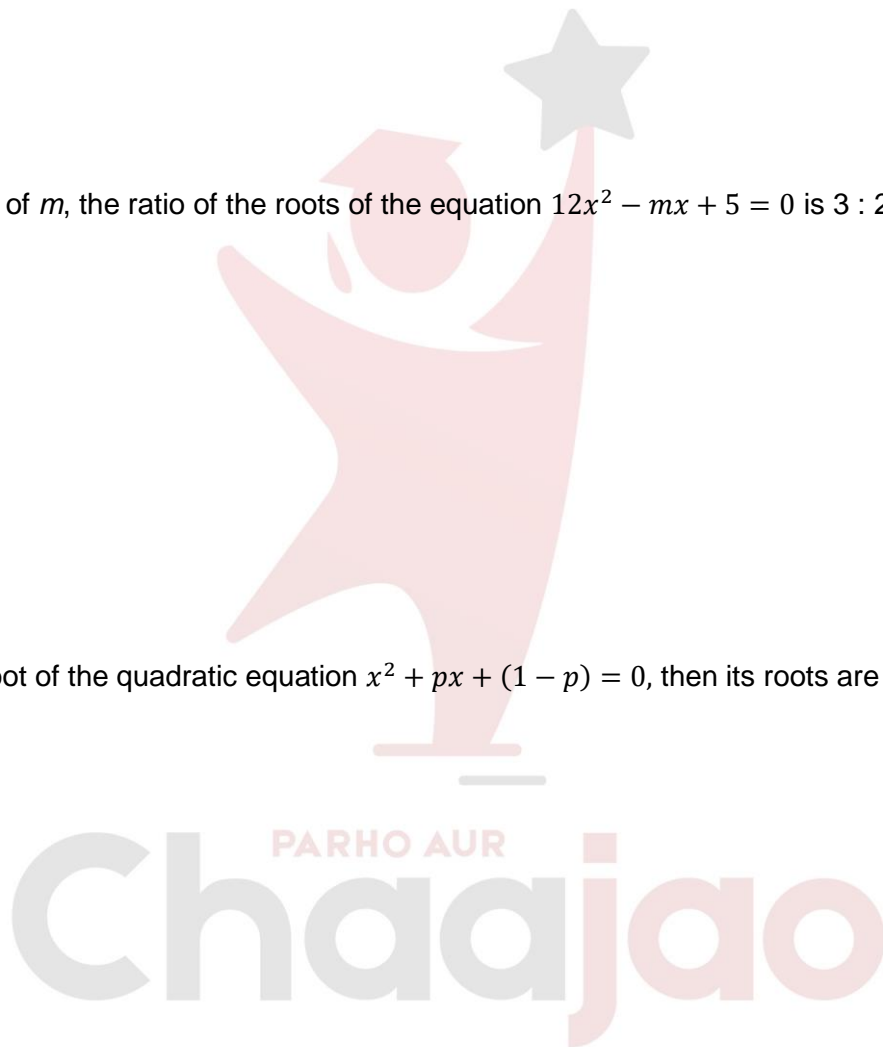
- If one root of the equation $x^2 + px + q = 0$ is $2 + \sqrt{3}$, then the values of p and q are
 - A) $-2, -\sqrt{3}$
 - B) $-4, 1$
 - C) $2, \sqrt{3}$
 - D) $4, -1$

(EMC01-0014M)

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

(EMC01-0015M)

- If $(1 - p)$ is a root of the quadratic equation $x^2 + px + (1 - p) = 0$, then its roots are
 - A) $-1, 2$
 - B) $-1, 0$
 - C) $-1, 1$
 - D) $0, 1$



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

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