

(EMC01-0002M)

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

(EMC01-0004M)

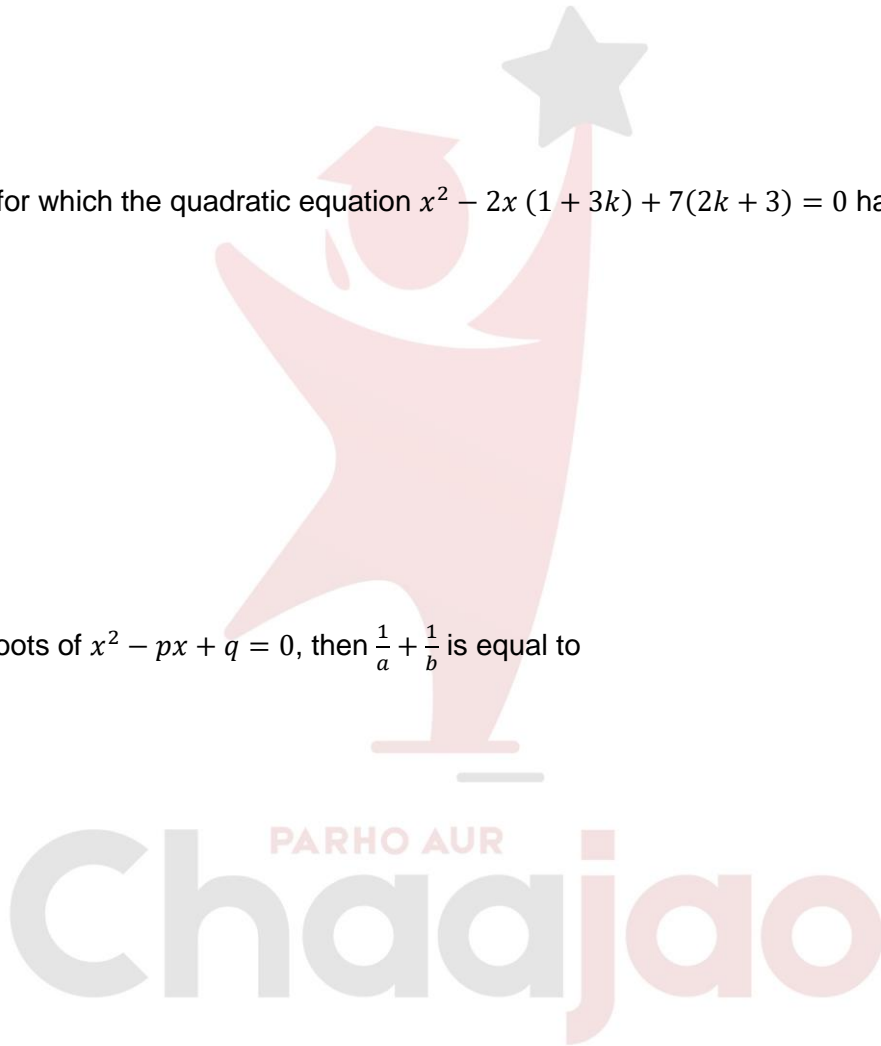
- The value of  $k$  for which the quadratic equation  $x^2 - 2x(1 + 3k) + 7(2k + 3) = 0$  has equal roots, is
  - 1
  - 2
  - 3
  - 4

(EMC01-0006E)

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

(EMC01-0008M)

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



(EMC01-0010H)

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

(EMC01-0012M)

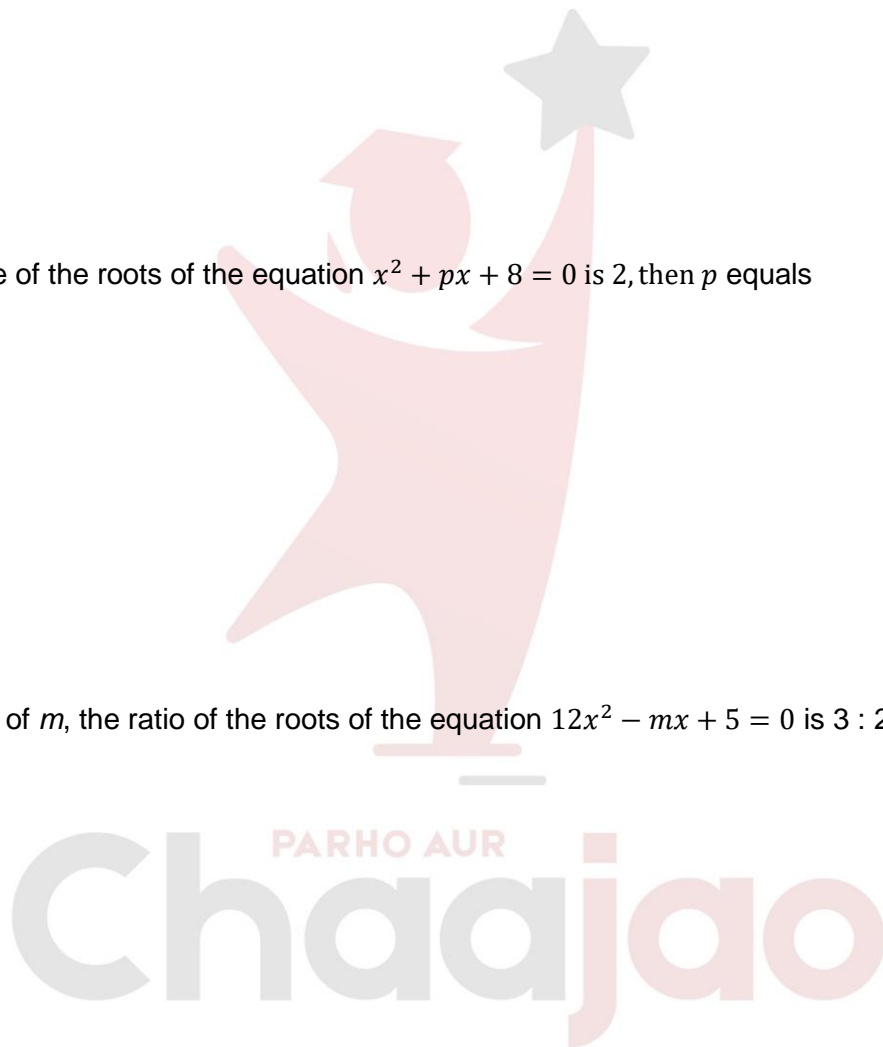
- If the difference of the roots of the equation  $x^2 + px + 8 = 0$  is 2, then  $p$  equals
  - A)  $\pm 2$
  - B)  $-6, 2$
  - C)  $-2, 6$
  - D)  $\pm 6$

(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)  $15\sqrt{5}$

(EMC01-0016H)

- 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



(EMC01-0018E)

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

(EMC01-0020E)

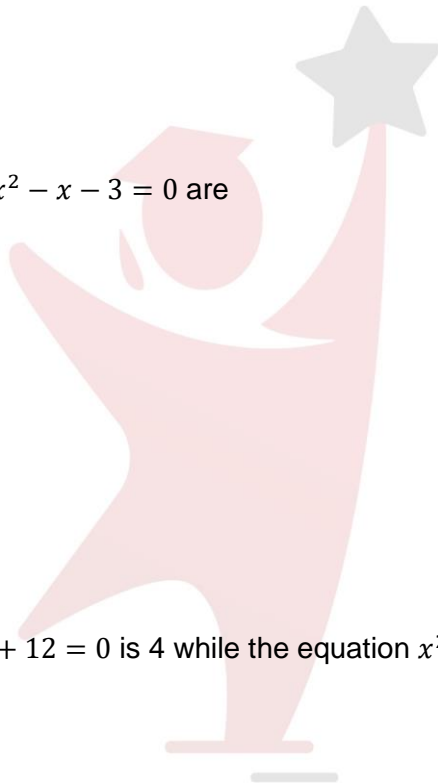
- Both the roots of the equation  $x^2 - x - 3 = 0$  are
  - real and rational
  - real and irrational
  - real and equal
  - imaginary roots

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



PARHO AUR  
**ChaaJao**

(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)

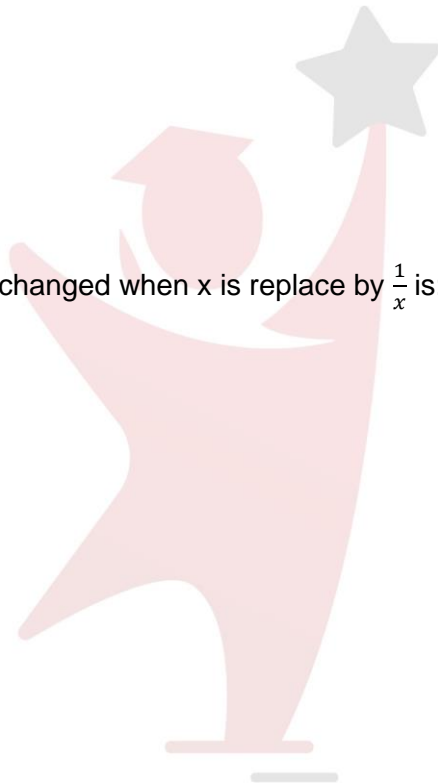
• An equation, which remains unchanged when x is replace by  $\frac{1}{x}$  is:

- 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)  $\omega$
- C)  $c\omega^2$
- D) 2



PARHO AUR  
**Chaaajao**

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