

MATH RAILWAY (NTPC) 03 MAY 2019

BASIC POINTS

- ❖ If $x + \frac{1}{x} = 1$ then $x^3 = -1$
- ❖ If $x + \frac{1}{x} = -1$ then $x^3 = 1$
- ❖ If $x + \frac{1}{x} = \sqrt{3}$ then $x^6 = -1$
- ❖ If $x + \frac{1}{x} = 1$ then $x^6 = -1$
1. If $x + \frac{1}{x} = 1$ then value of $1 + x^3 + x^6 + x^9 + x^{12} = ?$
A) 1 B) -1 C) 2 D) NOT
 2. If $x + \frac{1}{x} = 1$ then value of $x^{24} + \frac{1}{x^{24}} = ?$
A) 1 B) -1 C) 2 D) NOT
 3. If $x^2 - x + 1 = 0$ then value of $x^{32} + \frac{1}{x^{32}} = ?$
A) 1 B) -1 C) 2 D) NOT
 4. If $x^2 + x + 1 = 0$ then value of $x^{32} - x^{46} - x^{35} + x^{49} + 12 = ?$
A) 16 B) -16 C) 12 D) NOT
 5. If $x^2 + \sqrt{3}x + 1 = 0$ then value of $1 + x^6 + x^{12} + x^{18} + x^{24} = ?$
A) 1 B) -1 C) 2 D) NOT
 6. If $x^2 - \sqrt{3}x + 1 = 0$ then value of $x^{30} + \frac{1}{x^{30}} = ?$
A) -2 B) -1 C) 2 D) NOT
 7. If $\left(x + \frac{1}{x}\right) = 3$ then value of $x^{68} + \frac{1}{x^{68}} = ?$
A) 1 B) -1 C) 2 D) NOT
 8. If $x + \frac{1}{x} = -\sqrt{3}$ then value of $1 + x^{50} + x^{100} + x^{106} + x^{56} = ?$
A) 1 B) -1 C) 2 D) NOT
 9. If $\frac{2x}{x^2 - 2x + 1} = \frac{1}{4}$ then value of $x^2 + \frac{1}{x^2} = ?$
A) 100 B) 98 C) 102 D) NOT
 10. If $a^3 + 3a^2 + 3a = 7$ then value of $a^2 + 2a = ?$
A) 1 B) 2 C) 3 D) NOT

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