

PAWAN WAGH ACADEMY

Practice Paper 1.

Topic - Complex Number

Sub-Topic - Imaginary Numbers

Class - 11th

1. $(1 + i)^4 + \left(1 + \frac{1}{i}\right)^4 = -8$

2. $(1 + i)^4 + \left(1 + \frac{1}{i}\right)^4 = 16$

i) $i^n + i^{n+1} + i^{n+2} + i^{n+3} = 0$

ii) $i^{49} + i^{68} + i^{89} + i^{110} = 2i$

3. $(1 - i)^n \left(1 - \frac{1}{i}\right)^n = 2^n$

4. $(1 - i)^4 + \left(1 + \frac{1}{i}\right)^4 = 16$

5. $i^8 + i^{10} + i^{20} + i^{30}$ is a real number

6. $\frac{1}{i} - \frac{1}{i^2} + \frac{1}{i^3} - \frac{1}{i^4} = 0$

7. $i^{107} + i^{112} + i^{117} + i^{122} = 0$

8. $\left(1 - \frac{1}{i}\right)^4 + \left(1 + \frac{1}{i}\right)^4 = -8$

9. $(1 + i)^5 + \left(1 + \frac{1}{i}\right)^5 = 32$

10. $i(i^{12} + i^{13} + i^{14} + i^{15}) = 0$

11. $i^{77} + i^{82} + i^{87} + i^{92} = 0$

12. $i^5 + i^6 + i^7 + i^8 = 0$