How to Solve: Units' Digit of Power of 4
By [BrushMyQuant](#)

YouTube Video Link to this Post is [Here](#)

Following is Covered in this post

Theory of Units' Digit of Power of 4

- **Find Units' digit of 4^{51} ?**
- **Find Units' digit of 4^{33} ?**
- **Find Units' digit of 4^{44} ?**
- **Find Units' digit of 4^{60x+61} (given that x is a positive integer)?**
- **Find Units' digit of 12954^{1053} ?**

Theory of Units' Digit of Power of 4

● **To find units' digit of any positive integer power of 4**

We need to find the cycle of units' digit of power of 4	
4^1 units' digit is 4	4^3 units' digit is 4
4^2 units' digit is 6	4^4 units' digit is 6

=> The power repeats after every 2nd power
=> **Cycle of units' digit of power of 4 = 2**

=> **Units' digit of odd power of 4 = 4**
=> **Units' digit of even power of 4 = 6**

Q1. Find Units' digit of 4^{51}?

Sol: 51 is odd
=> Units' digit of 4^{51} = 4

Q2. Find Units' digit of 4^{33}?

Sol: 33 is odd
=> Units' digit of 4^{33} = 4

Q3. Find Units' digit of 4^{44}?

Sol: 44 is even
=> Units' digit of 4^{Even} = 6

Q4. Find Units' digit of 4^{60x+61} (given that x is a positive integer)?

Sol: 60x + 61 = Even + Odd = Odd
=> Units' digit of 4^{60x+61} = 4

Q5. Find Units' digit of 12954^{1053} ?

Sol: Units' digit of power of any number = Units' digit of power of the units' digit of that number
=> Units' digit of 12954^{1053} = Units' digit of 4^{1053}

=> 1053 is Odd
=> Units' digit of 12954^{1053} = Units, digit of 4^{1053} = 4

Hope it helps!