How to Solve: Units' Digit of Power of 6

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YouTube Video Link to this Post is Here

Following is Covered in this post

Theory of Units' Digit of Power of 6

- **Find Units' digit of 6^{71} ?**
- **Find Units' digit of 6^{54} ?**
- **Find Units' digit of 6^{70x+41} (given that x is a positive integer)?**
- **Find Units' digit of 2756^{205} ?**

Theory of Units' Digit of Power of 6

- **To find units' digit of any positive integer power of 6**

We need to find the cycle of units' digit of power of 6	
71 units' digit is 6	6^2 units' digit is 6

=> **Units' digit of any positive integer power of 6 = 6**

Q1. Find Units' digit of 6^{71}?

Sol: Since 71 is a positive integer
=> Units' digit of 6^{71} = 6

Q2. Find Units' digit of 6^{54}?

Sol: Since 54 is a positive integer
=> Units' digit of 6^{54} = 6

Q3. Find Units' digit of 6^{70x+41} (given that x is a positive integer)?

Sol: Since 70x + 41 is a positive integer
=> Units' digit of 6^{70x+41} = 6

Q4. Find Units' digit of 2756^{205} ?

Sol: Units' digit of power of any number = Units' digit of power of the units' digit of that number
=> Units' digit of 2756^{205} = Units' digit of 6^{205}
Since 205 is a positive integer
=> Units' digit of 2756^{205} = 6

Hope it helps!