

February 20th

Find the units digit of

$$1^{2015} + 3^{2015} + 4^{2015} + 5^{2015}$$

$$1^{2015} = 1$$

$$3^1 = 3, 3^2 = 9, 3^3 = 27, 3^4 = 81, 3^5 = 243$$

2015 = 4 x 503 + 3, therefore 3^{2015} must end in 7

Odd powers of 4 end in 4

All powers of 5 end in 5

Adding these gives $1 + 7 + 4 + 5 = 17$

So the given sum must end in a **7**