ECE3321 Pre-Lab 4
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How can you determine directly if N is odd or even (divisible by 2) with no division?

Check bit0 of N, if bit0 is equal 1 then the number is odd, else the number is even.

Using the above algorithm, how many test divisions would be required to conclude that the 32-bit number 0x40000003 = 107374182710 is prime?

You would need to go to a maximum of n = 327680 to ensure that 107374182710 is prime. With 5 valid n's per each 10 numbers in the maximum, the number of test divisions needed would be (327680 * ½) = 163840.