

④ $HCF(306, 657) = 9$

$$\begin{aligned} LCM(306, 657) &= \frac{\text{Product of numbers}}{HCF(306, 657)} \\ &= \frac{306 \times 657}{9} \\ &= 22338 \end{aligned}$$

⑤ $6^n = (2 \times 3)^n$

\therefore only prime factors of 6 are 2 and 3
For a number to end in zero
required prime factors are 2 and 5
which is not possible due to
uniqueness of fundamental theorem
of arithmetic

\therefore for no natural number n , 6^n
can end in zero.

⑥(1) $7 \times 11 \times 13 + 13$
 $= 13(7 \times 11 + 1)$
 $= 13 \times 78$

given number has two factors other
than 1

\therefore given no. is composite.