[6] 1. (a) Compute the value of $\phi(100)$.

Solution:
By multiplicativity, $\phi(100) = \phi(2^2 \cdot 5^2) = \phi(2^2) \cdot \phi(5^2) = (2^2 - 2)(5^2 - 5) = (2)(20) = 40$.

(b) Determine the last two digits of 63^{4884}.