

Divizibilitate

$$\begin{aligned} N &= (5^2 + 5^4) + (5^6 + 5^8) + \dots + (5^{1990} + 5^{1992}) = \\ &= 5 \underbrace{(5 + 5^3)}_{130} + 5^5 \underbrace{(5 + 5^3)}_{130} + \dots + 5^{1989} \underbrace{(5 + 5^3)}_{130} = \\ &= 130 \underbrace{(5 + 5^5 + \dots + 5^{1989})}_{k \in \mathbb{N}} = 130k \Rightarrow \boxed{N:130} \end{aligned}$$