

$$\begin{aligned} 3^{2k+1} &= 3 \cdot 3^{2k} = 3 \cdot 9^k = 3 \cdot (10-1)^k = 3 \cdot (10 \cdot (\dots) + (-1)^k) \\ &= 10 \cdot 3 \cdot (\dots) + 3 \cdot (-1)^k \end{aligned}$$

$$9^{2k} = 81^k = (8 \cdot 10 + 1)^k = 10 \cdot (\dots) + 1$$

$$\begin{aligned} 6^k &= 6^2 \cdot 6^{k-2} = 36 \cdot 6^{k-2} = (10 \cdot 3 + 6) \cdot 6^{k-2} \\ &= 10 \cdot (\dots) + 6^{k-1} = \dots = 10 \cdot (\dots) + 6 \end{aligned}$$

$$\begin{aligned} 14^{2k} &= (14^2)^k = 196^k = (19 \cdot 10 + 6)^k \\ &= 10 \cdot (\dots) + 6^k \end{aligned}$$