

47  
(316)

$$(5+2^n)(1+2+\dots+2^{n-1})+9=$$

$$(5+2^n)\left(\frac{1 \cdot (2^n - 1)}{2 - 1}\right) + 9 = (5+2^n)(2^n - 1) + 9 = 2^{2n} + 4 \cdot 2^n + 4 = (2^n + 2)^2$$