#5 Geometric sequence

① $\frac{1}{2}, -1\frac{1}{2}, 4\frac{1}{2}, -13\frac{1}{2}, \ldots$ $\boxed{40.5, -121.5, 364.5}$

$\times -3 \quad \times -3 \quad \times -3$

② $-2, -15, -112.5, -843.75, \ldots$ $\boxed{-6328.125, -47460.9, -355957.03}$

$\times 7.5 \quad \times 7.5 \quad \times 7.5$

③ $1, 6, 36, 216 \ldots$ $\boxed{1296, 7776, 46656}$

$\times 6 \quad \times 6 \quad \times 6$

④ $56, 28, 14, 7 \ldots$ $\boxed{3.5, 1.75, 0.875}$

$\times .5 \quad \times .5 \quad \times .5$

⑤ $64, -48, 36, -27, \ldots$ $\boxed{20.25, -15.19, 11.39}$

$\times -\frac{3}{4} \quad \times -\frac{3}{4} \quad \times -\frac{3}{4}$

⑥ $2, 22, 242, 2662, \ldots$ $\boxed{29282, 322102, 3543122}$

$\times 11 \quad \times 11 \quad \times 11$

⑦ $A(10) = 3 \cdot (-2)^{10-1}$

$= 3 \cdot (-2)^{9}$

$= 3 \cdot -512$

$\boxed{A(10) = -1536}$

⑧ $25, 12.5, 6.25, 3.125 \ldots$

$\times .5 \quad \times .5 \quad \times .5$

$A(9) = 25 \cdot \left(\frac{1}{2}\right)^{9-1}$

$= 25 \cdot \left(\frac{1}{2}\right)^{8}$

$= 25 \cdot .00390625$

$\boxed{A(9) = 0.098}$

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

$= 5 \cdot \left(-\frac{1}{4}\right)^{3}$

$= 5 \cdot -.015625$

$\boxed{A(4) = -0.078}$

⑩ $A(15) = 32768$

a) $A(15) = 2 \cdot 2^{14}$

$= 2 \cdot 16384$

$= 32768$ ✓

(A)