2, 6, 18 , 54 , …

$6 = 2 \times 3$

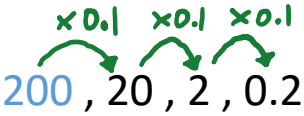
$18 = 2 \times 3 \times 3 = 2 \times 3^2$

$54 = 2 \times 3 \times 3 \times 3 = 2 \times 3^3$

10^{th} term = 2×3^9

100^{th} term = 2×3^{99}

U_n = nth term = $2 \times 3^{n-1}$



200 , 20 , 2 , 0.2, …

$20 = 200 \times 0.1$

$2 = 200 \times 0.1 \times 0.1 = 200 \times 0.1^2$

$0.2 = 200 \times 0.1^3$

10^{th} term = 200×0.1^9

100^{th} term = 200×0.1^{99}

U_n = nth term = $200 \times 0.1^{n-1}$

$U_1 , U_2 , U_3 , U_4 , \ldots$

$U_2 = U_1 \times r$

$U_3 = U_1 \times r \times r = U_1 \times r^2$

$U_4 = U_1 \times r^3$

$U_n = U_1 \times r^{n-1}$