

Geometric Series, - Given a geometric sequence with a common ratio, r , its partial sum is given by ---

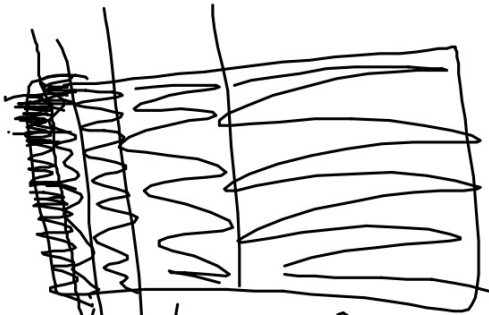
$$S_n = a_1 \left(\frac{1-r^n}{1-r} \right)$$

3a) S_7 of $4+8+16+32+\dots$

$$S_7 = 4 \left(\frac{1-2^7}{1-2} \right) = 4 \left(\frac{1-128}{-1} \right) \\ = 4(127) = \boxed{508}$$

$$\sum_{n=1}^{\infty} a_n = \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \dots$$

$r = \frac{1}{2}$.



ke's gold.



Given an infinite geometric sequence with a common ratio, $|r| < 1$, its infinite sum is...

$$S = \frac{a_1}{1-r}$$