Geometric Series

$a_n = a_1 r^{n-1}$

how will we sum terms?

$S_{10} = a_1 + a_2 + a_3 + \cdots + a_{10}$?

HW: 25 $\sum_{n=0}^{10} 8 - 4n$ $\quad \frac{n(n+1)}{2}$

$= \#\text{terms summed}\left(\frac{8 + -32}{2}\right)$

$= 11\frac{(-24)}{2} = -132$

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23 $\sum_{i=1}^{30} 5i + 10$

$= 30\left(\frac{15 + 160}{2}\right)$

$= 15(175) = 2625$

$\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$

$\sum_{i=5}^{30}(5i + 10)$

$= \sum_{i=1}^{30} 5i + \sum_{i=1}^{30} 10$

$= 5\sum_{i=1}^{30} i + 300$

$= 5\frac{(30)(31)}{2} + 300$

$= 75(31) + 300 = 2625$