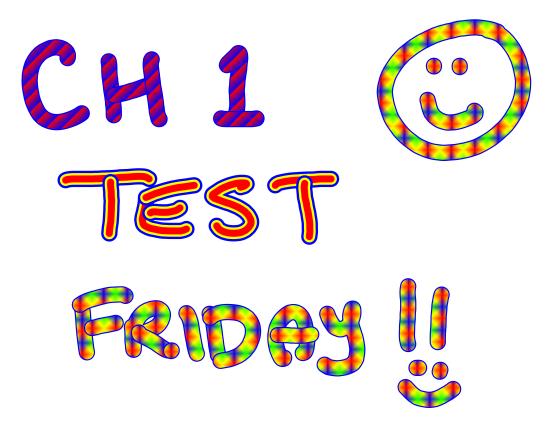
Geometric Series	tn=t1.rn-1
$S_n = \frac{t_1((r^n)-1)}{(r-1)}$	r ‡ I
$S_n = \frac{r \cdot t_n - t_i}{r - i}$	r #



$$S_{n} = \underbrace{t_{1}(r^{n}-1)}_{r-1} \quad or \quad S_{n} = \underbrace{rt_{n}-t_{1}}_{r-1}$$

$$E_{\times 1} \quad 4 + 12 + 36 + \dots \quad find \quad S_{10}$$

$$t_{1} = 4$$

$$r = 3$$

$$\eta = 10$$

$$S_{10} = \underbrace{4(3^{10}-1)}_{(3-1)} = \underbrace{118.096}_{12}$$

EX 2 1 +	1 + 1 + + 729 9 + 3
$t_1 = \frac{1}{27}$ $C = 3$	$S_n = \frac{rt_{n-t_1}}{r-1}$ $S_n = 3 \cdot 729 - \frac{1}{27}$
t _n = 729	3-1 27.2187 - 1 27 1 27
	2 59049 - 1 27 27
	2 59048 27
	= 2 1 Ta da! 29524
	27 27

If
$$3n = 33$$
, $t_n = 48$ and $r = -2$, what is t_1 ?
$$3n = \frac{rt_n - t_1}{r-1}$$

$$33 = (-2)(48) - t_1$$

$$-2 - 1$$

$$-3 \cdot 33 = (-96 - t_1)$$

$$-99 = -96 - t_1$$

$$+96 + 90$$

$$-3 = -t_1$$
so $t_1 = 3$