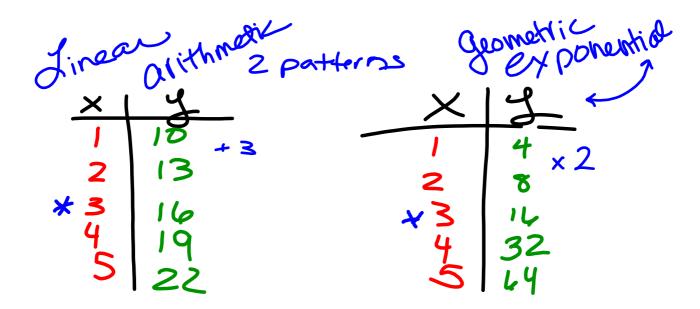
Geometric Sequences





Geometric Sequence



- Each term, after the 1st, is the product of the preceding term and the common ratio, r.
- The common ratio can be found: $r = \frac{\mathcal{Q}_n}{\mathcal{Q}_{n-1}}$

Are the following Arithmetic, Geometric, or neither. If arithmetic, state d. If Geometric, state r.



- 4, 12, 36, ... **Geometric** (= 3
- · 8, 4, 0, -4.... arithemetic d=-4

Let's figure out the formula for a geometric sequence!



- 1st Term: 0,
- 2nd Term:Q,
- 3rd Term: $Q_{1} = Q_{1}$ 4th Term: $Q_{1} = Q_{1}$
- 10th Term: Q, C

• nth Term:

explicit:
$$Q_n = Q_1 \Gamma^{n-1}$$

Find the 10 term if $a_1 = 4$ and r = -1/2.



$$a_{0} = a_{1} - a_{10} - a_{$$

Find
$$a_{10}$$
 if $\frac{1}{2}$, 1, 2, 4, ... $f = \frac{2}{1} = 2$

$$0_{10} = \frac{1}{2}(2)^{10-1}$$

$$0_{10} = \frac{1}{2}(2)^{9}$$

$$0_{10} = 254$$



Find the 9th term if
$$a_1 = 3$$
 and $r = \frac{1}{2}$.

$$0 = 3(\frac{1}{2})^{8}$$

$$0 = \frac{3}{25}$$