

when we know 2 random terms in the geo. sequence:

$$t_m = t_1 \times r^{m-1}$$

$$t_n = t_1 \times r^{n-1}$$

"R", the ratio btwn 2 known terms t_m & t_n can be known.

$$"R" = \frac{t_m}{t_n} = \frac{t_1 \times r^{m-1}}{t_1 \times r^{n-1}} = r^{m-1-(n-1)}$$

$$= r^{\cancel{m-1-n+1}} = r^{m-n}$$

"R" = $\left[\frac{t_m}{t_n} = r^{m-n} \right]$
 via
 the
 division

m, n random positions

$$"R" = r^{m-n}$$

← equate the powers when possible to find r

Alternate form:

$$t_m = t_n \times r^{m-n}$$

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