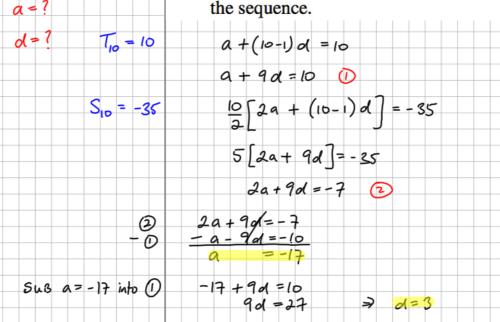


3. Arithmetic sequences and series e.g. The tenth term of an arithmetic sequence is 10 and the sum of the first ten terms is -35. Find the first term and the common difference of the sequence



ratio.

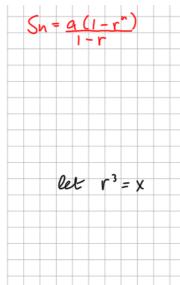
Geometric sequence or series

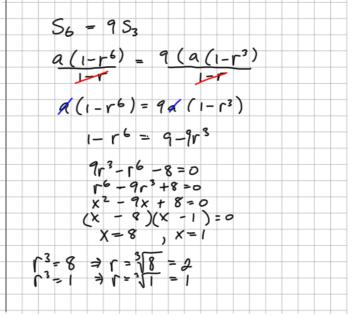
$$T_n = ar^{n-1}$$

$$S_n = \frac{a(1 - r^n)}{1 - r}$$

$$S_{\infty} = \frac{a}{1-r}$$
, where  $|r| < 1$ 

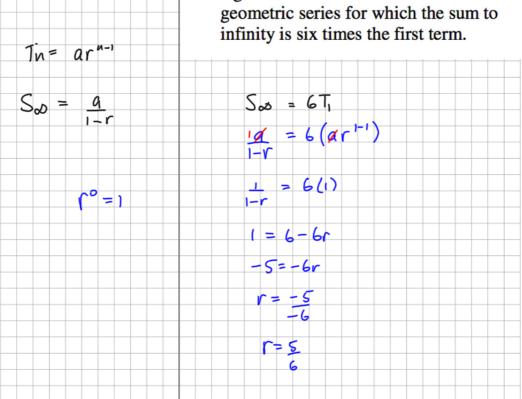
4. Geometric sequences and series
e.g. The sum of the first six terms of
a geometric series is nine times the sum
of the first three terms. Find the common





5. Infinite geometric series

e.g. find the common ratio of a infinity is six times the first term.



6. Applications of infinite geometric series

> e.g. by forming an infinite geometric series, write  $1 \cdot \dot{4} \dot{7} = 1 \cdot 474747...$  in the form  $\frac{p}{q}$ , where  $p, q \in \mathbb{N}$ .

