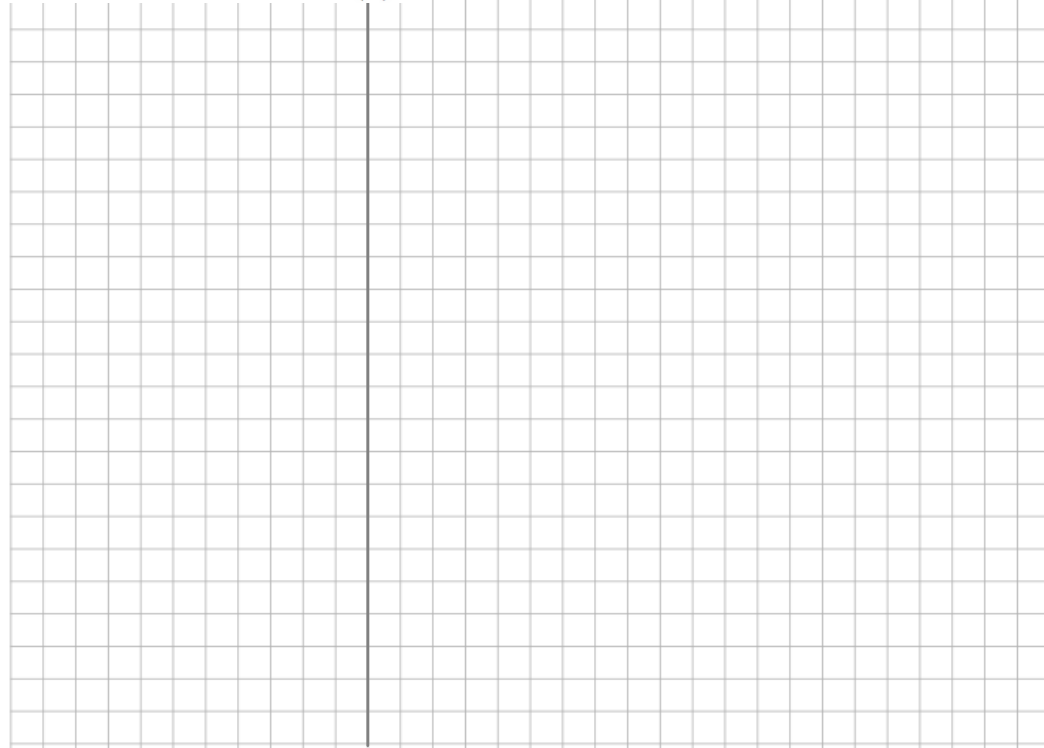


## Induction Revision Questions

**1. Formula for the sum of a series**

e.g. prove by induction that

$$\frac{1}{3} + \frac{2}{9} + \frac{4}{27} + \dots + \frac{2^{n-1}}{3^n} = 1 - \left(\frac{2}{3}\right)^n.$$



**2. Divisibility proofs**

e.g. prove by induction that

$$8^n - 7n + 6$$

is divisible by 7, for all  $n \in \mathbb{N}$

