

## Generating Different Types of Sequence

|  |   |   |   |
|--|---|---|---|
| <b>(a)</b>   | <b>(b)</b>  | <b>(c)</b>  | <b>(d)</b>  |
| Find the first four terms in the sequence with nth term<br>$7n - 4$  | Find the first four terms in the sequence with nth term<br>$15 - 2n^2$  | Find the first four terms in the sequence with nth term<br>$3^{n-1}$  | Find the first four terms in the sequence with nth term<br>$\frac{1}{2}n(n + 3)$  |
| <b>(e)</b>   | <b>(f)</b>  | <b>(g)</b>  | <b>(h)</b>  |
| Find the 10 <sup>th</sup> and 20 <sup>th</sup> terms of the sequence with nth term<br>$9 - 2n$                     | Find the 5 <sup>th</sup> and 7 <sup>th</sup> terms of the sequence with nth term<br>$6 \times 2^n$                        | Find the 3 <sup>rd</sup> and 12 <sup>th</sup> terms of the sequence with nth term<br>$\frac{2n}{n + 3}$                             | Find the 10 <sup>th</sup> and 20 <sup>th</sup> terms of the sequence with nth term<br>$3 + 2n - n^2$                        |
| <b>(i)</b>   | <b>(j)</b>  | <b>(k)</b>  | <b>(l)</b>  |
| Find the sum of the 8 <sup>th</sup> and 15 <sup>th</sup> terms of the sequence with nth term<br>$\frac{5}{2}n + 3$ | Find the difference between the 2 <sup>nd</sup> and 5 <sup>th</sup> terms of the sequence with nth term $(4n + 1)(n - 1)$ | Find the smallest non-negative number in the sequence with nth term $20 - 7n$   | Find the first term in the sequence with nth term $16 \times \left(\frac{1}{2}\right)^n$ that is less than 1.               |
| <b>(m)</b>   | <b>(n)</b>  | <b>(p)</b>  | <b>(q)</b>  |
| Find the first three prime numbers generated by the sequence with nth term<br>$2n^2 - 3n + 3$                      | Find the sum of all the terms in the sequence $\frac{4^{n-1}}{25}$ that are less than 1.                                  | A sequence has nth term $3 \times \sqrt{3}^{n-1}$ . Find the value of the 8 <sup>th</sup> term divided by the 4 <sup>th</sup> term. | A sequence has nth term $5an - (a + b)n^2$ . Find the sum of the first four terms, giving your answer in its simplest form. |