

Sangam SKM College – Nadi

Year 11

Applied Mathematics

Worksheet 4

Questions

1. Given matrix $A = \begin{pmatrix} 4 & 1 \\ 15 & - \end{pmatrix}$ $B = \begin{pmatrix} -3 & 1 \\ 6 & 4 \end{pmatrix}$ $C = \begin{pmatrix} 2 & - \\ 3 & 5 \end{pmatrix}$

- a) Evaluate: $A - B$
- b) State the order of matrix B.
- c) Find the inverse of matrix C.

2. The first five terms of an arithmetic sequence are given as $\{-4, 1, 6, 11, 16..\}$

Using the correct formula, calculate:

- a) The 13th term.
- b) The sum of the first 20 terms.

3. A geometric sequence is given as $\{2, \frac{2}{3}, \frac{2}{9}, \frac{2}{27}, \frac{2}{81}, \dots\}$

- a) Determine the **common ratio**.
- b) Find the value of T_7 .
- c) Use an appropriate formula to determine the sum of first 12 terms.