

2021 Worksheet 10
Year 11 Applied Mathematics

Write the answers in your Exercise Book.

1. When simplified $9^0 \times 4$ equals

- A. 0
- B. 1
- C. 4
- D. 36

(1 mark)

2. If $a \bullet b = b \bullet a$ then the operation \bullet is

- A. closed.
- B. commutative.
- C. associative.
- D. distributive.

(1 mark)

3. Consider the sequence $-81, 27, -9, 3, \dots$

(a) Explain why this sequence is a geometric sequence.

(1 mark)

(b) Find the 7th term.

$$\left[T_n = ar^{n-1} \right]$$

(1 mark)

(c) What is the **sum** of the first 9 terms?

$$\left[S_n = \frac{a(1-r^n)}{1-r} \right]$$

(1 mark)

4. Solve the following pair of **simultaneous equations**.

$$\begin{aligned} y &= x - 1 \\ 3x - y &= 3 \end{aligned}$$

(2 marks)