

**BA SANGAM COLLEGE  
YEAR 12  
MATHS  
WORKSHEET 2**

**Strand 1 Basic Mathematics**

1. Which of the following statements is/are **correct**?

- i. Credit cards can be used to obtain cash advances.
- ii. Payments made with a debit card are immediately deducted from the person's bank account.
- iii. Debit cards cannot be used to withdraw cash.

- A. ii only.
- B. i and ii only.
- C. i and iii only.
- D. ii and iii only.

2. If  $\log k = -4$ , then  $\frac{\log k^2}{2} =$

- A. -8
- B. -4
- C. 8
- D. 16

3.  $\sqrt{4^{16x^2}}$  is equal to

- A.  $2^{4x}$
- B.  $2^{8x^2}$
- C.  $4^{4x}$
- D.  $4^{8x^2}$

4. Solve  $7^{5x+3} = 512$

5. Study the operation table for  $\{0, 1, 2, 3\}$  shown below and then answer the questions that follow.

$\times$	0	1	2	3
0	0	0	0	0
1	0	1	2	3
2	0	2	0	2
3	0	3	2	1

- (a) The table above shows multiplication in **modulo**  $k$ .  
What is the value of  $k$ ?
- (b) Give the **identity** element.
- (c) The above table does **not** represent a **group**. Give a reason for this.

6. Express  $\sqrt{3} + \sqrt{12} + \sqrt{27}$  in the form  $w\sqrt{3}$ , where  $w$  is an integer.

7. Simplify  $\frac{5 + \sqrt{5}}{1 + \sqrt{5}}$