

## Unit 1 Quiz B

Randomly select 3 questions to ask members of the group requesting the next set of assignments. If they get all questions correct, give them the entire stack of quizzes and assignments so that they can quiz the next group. If they get any question wrong, send them back to their seats to review and then try again in 10 minutes or more.

1. What is  $\log_2 8$ ? Explain how you got your answer.

*Answer:  $\log_2 8 = 3$  because 2 raised to the power of 3 equals 8 (i.e.,  $2^3 = 8$ ).*

2. When we have a negative exponent like  $6^{-2}$ , what does it mean and how do we evaluate it? Give an example showing the steps.

*Answer: A negative exponent means we need to find the reciprocal of the number raised to the positive exponent. For  $6^{-2}$ , we first calculate  $6^2 = 36$ , then take its reciprocal:  $6^{-2} = \frac{1}{6^2} = \frac{1}{36}$ . The negative exponent tells us to “flip” the result to its reciprocal.*

3. Calculate  $\log_3 81$ . Explain how you got your answer.

*Answer:  $\log_3 81 = 4$  because 3 raised to the power of 4 equals 81 (i.e.,  $3^4 = 81$ ).*

4. What happens when we raise a number to the power of zero, like  $2^0$ ?

*Answer: Any number (except 0) raised to the power of 0 equals 1.*

5. Calculate  $\log_2 16$ . Explain how you got your answer.

*Answer:  $\log_2 16 = 4$  because 2 raised to the power of 4 equals 16 (i.e.,  $2^4 = 16$ ).*

6. Calculate  $16^{1/2}$ . Explain how you got your answer.

*Answer:  $16^{1/2} = 4$  because raising a number to the  $1/2$  power is the same as taking its square root.*