Section 2

Assessment Questions

1. Evaluate the function $\log_3 81$:

a. 4 (correct answer)

b. 3

c. −2

d. e

FEEDBACK: A logarithm calculates a power for a given base. In this case, we are asking "3 raised to what power gives 81?" which would be $3 \times 3 \times 3 \times 3$ so that is a power of 4.

2. A derivative of a function calculates...

a. Where a function divides by 0

b. The area under that function

c. A limit approaching a specific point

d. The slope/gradient of that function (correct answer)

FEEDBACK: A derivative allows us to calculate the slope/gradient at any given point of a function easily, such as the derivative $f(x) = x^2$ is $f'(x) = 2x$. This means at $x = 2$, the slope is 4.

3. The learning rate in gradient descent...

a. Controls how fast the algorithm moves to a minimum while trading off with accuracy. (correct answer)

b. Controls how smart the "AI" is

c. Controls how many iterations are performed

d. Calculates the derivative for a given function

FEEDBACK: A learning rate controls how fast the algorithm moves to a minimum at the cost of accuracy. While it will require more iterations the smaller it is, it does not control iterations nore does it calculate the derivative.