Name: _____

Math 108
Spring 2024
Dr. Lily Yen

Number: _____

Signature: _____

Quiz Two

Show all your work

Score: ___/10

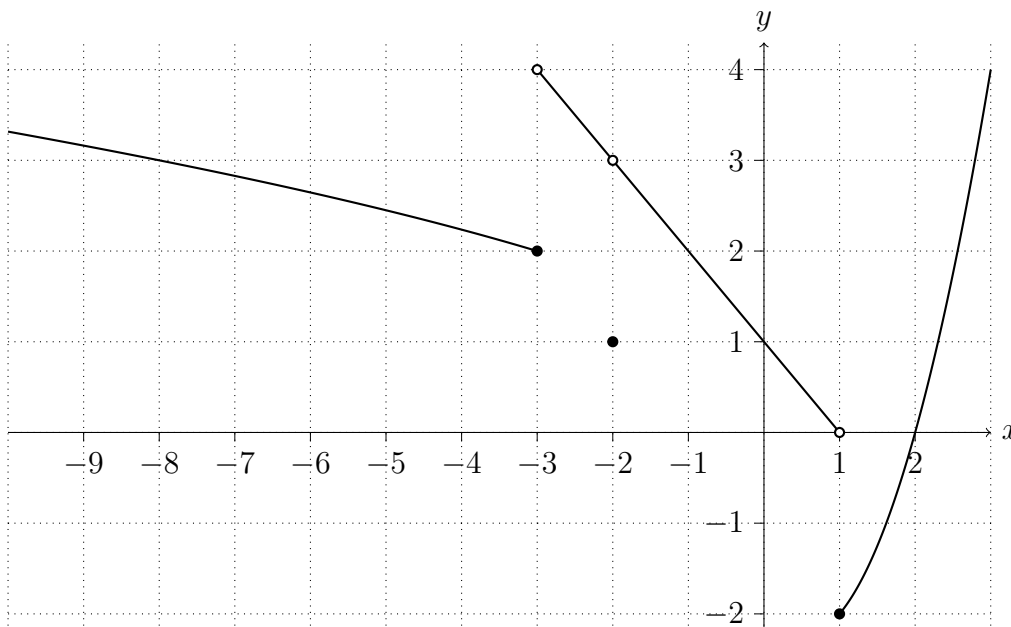**Problem 1**: Consider a CapU athlete running a $40\,\text{m}$ dash. The position of the athlete is given by

$$d(t) = \frac{t^3}{7} + 4t,$$

where d is the position in meters and t is the time elapsed, measured in seconds. Use a permissible graphing calculator (TI83, TI83+, TI84-Plus) to make a table of values of average velocity of the athlete in order to find the instantaneous velocity **three** seconds after the runner began the dash. Clearly state your Y_1 and Y_2 from your graphing calculator.

Interval	Y2

Score: /4

Problem 2: Answer the following questions according to the graph of $y = f(x)$ as shown. Note three hollow dots: $(-3, 4)$, $(-2, 3)$, and $(1, 0)$; also two solid dots $(-3, 2)$, and $(1, -2)$.

a. $\displaystyle\lim_{x \to -2} f(x) =$ ☐

b. $f(-2) =$ ☐

c. $\displaystyle\lim_{x \to 1} f(x) =$ ☐

d. $\displaystyle\lim_{x \to -3^+} f(x) =$ ☐

e. $\displaystyle\lim_{x \to -1} \frac{f(x) - 2}{x + 1} =$ ☐

Score: /6