Name and surname:

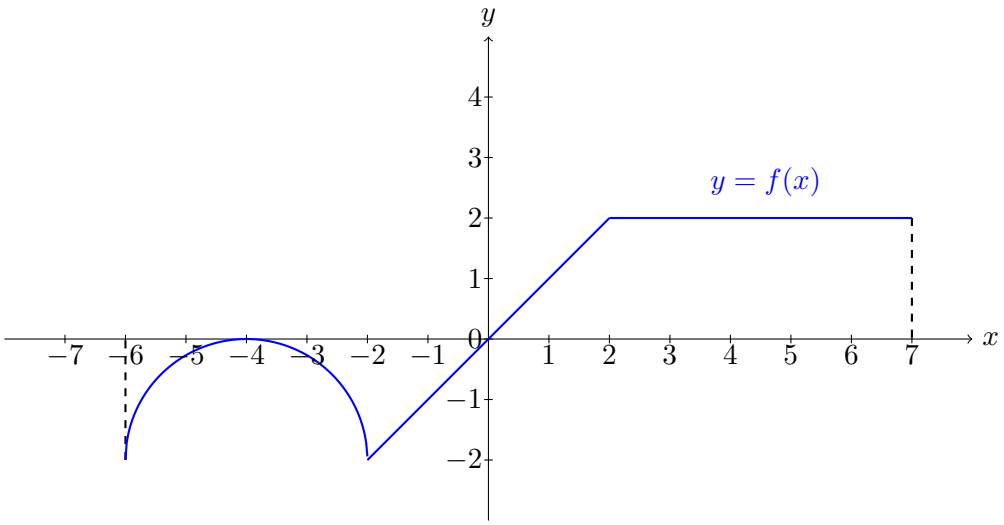
U number:

Calculus I - MAC 2311 - Section 003

Quiz 9 - Take home

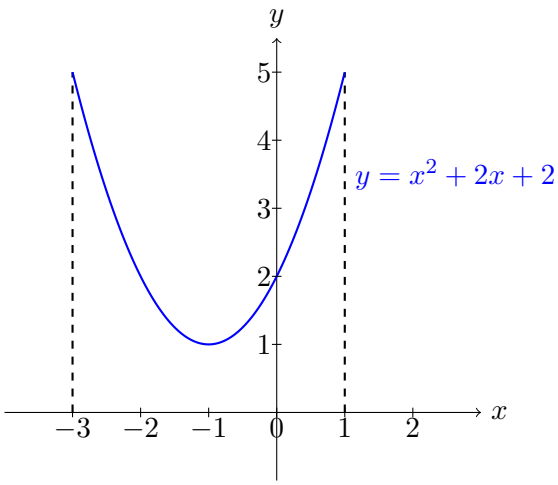
Instructions: This take-home quiz is due on **Wednesday, November 28**, at the beginning of the class. The total number of points is 12, but your grade will be the minimum between your score and 11.

1) [4 points] Let f be the function whose graph is the following:



Compute $\int_{-6}^{7} 5 \cdot f(x)\, dx$.

2) Below is the graph of the function $f(x) = x^2 + 2x + 2$ defined on the interval $[-3, 1]$.



a) [1 point] On the graphe above, draw the rectangles associate to the **right** Riemann sum with $n = 4$.

b) [3 points] Using the **right** Riemann sum with $n = 4$, approximate the area of the region S between the graph $y = f(x)$, the x-axis and the lines $x = -3$ and $x = 1$.

c) [2 points] Compute the exact area of the region S.

3) [2 points] Find the critical numbers of the function

$$g(x) = \int_2^x e^t \cdot (t + 1) \cdot \ln(t)\, dt.$$