1. Find the x-values where $f(x) = x^3 - 2x^2 - x$ attains its maximum and minimum on the interval $[1, 3]$.
2. Find the x-values where $g(x) = \dfrac{x}{2} + \sin(x)$ attains its maximum and minimum on the interval $[0, 3]$.
3. Consider the line segment $y = -2x + 2$ with $-1 \leq x \leq 2$

   Find the point on the segment that is closest to the origin and the point that is farthest from the origin