\[ f'(x) > 0 \text{ and } f''(x) = 0 \text{ everywhere.} \quad f(x) = x^3 - x. \quad f(x) \text{ has an inflection point at } x = 1 \text{ because } f''(x) \text{ switches signs at } x = 1. \]

\[ \div \quad \& \quad ? \]

\[ f'(x) < 0 \text{ and } f''(x) = 0 \text{ everywhere.} \quad f'''(x) \text{ switches signs at } x = -1. \quad f(x) \text{ has a vertical tangent line at } x = -1. \]

\[ ✳ \quad @ \quad ! \]

\[ f'(x) \text{ has a jump discontinuity at } x = 0. \quad f(x) \text{ is always concave down because } f'(x) \text{ is always decreasing.} \]

\[ = \quad □ \quad + \]

\[ f(x) \text{ has a local minimum at } x = -1 \text{ because } f'(x) \text{ switches signs from negative to positive there. } f'''(x) \text{ is constant.} \quad f'(0) = f''(0) = 0 \text{ and } f'''(x) \text{ exists everywhere.} \quad f'''(x) \text{ is undefined at } x = 1. \]

\[ △ \quad # \quad ♥ \]

\[ f(x) \text{ and } f'(x) \text{ are both periodic with period } 2\pi. \]

\[ \int_0^2 f'(x) \, dx = 0. \]