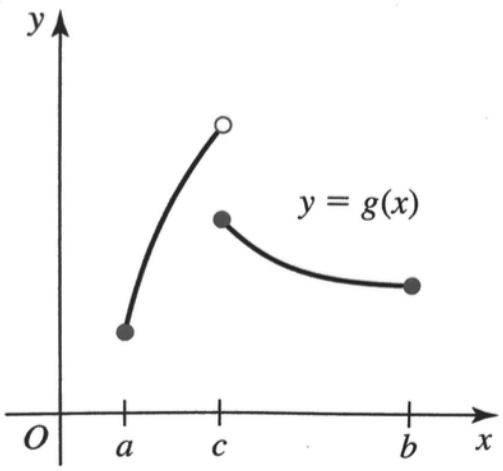
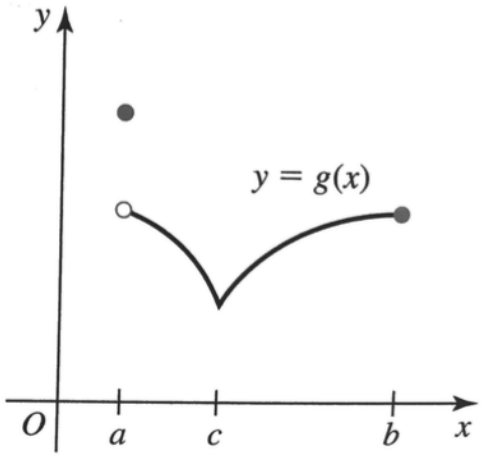
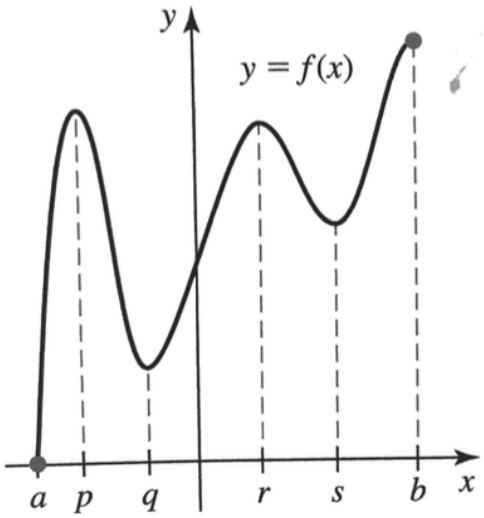
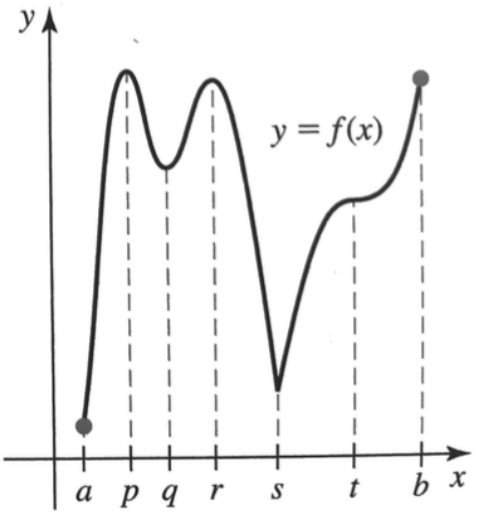
§4.1: Maxima, Minima, and Critical Points

1.] In the graphs below, identify the points (if any) on the interval $[a, b]$ at which the function has an absolute max, absolute min, local min, or local max.









2.] Find the critical points of the following functions on the domain or on the given interval.

a.) $f(x) = \dfrac{x^3}{3} - 9x$ on $[-7, 7]$

b.) $f(x) = x^2\sqrt{x+5}$

3.] Find the critical points of the function $f(x) = 3x^5 - 25x^3 + 60x$ on the interval $[-2, 3]$. Determine the absolute extreme values of f on the given interval.