**Problem statement** a) Suppose you know that $f'(x) = (x-1)(x-2)^2(x-3)^3(x-4)^4(x-5)^5$. What are the critical points of $f$? Which of them are local extrema, and what kind of local extrema are they?

b) Suppose you know that $g'(x) = x(x-1)^{2/3}(x-2)^{3/5}(x-3)^{4/7}$. What are the critical points of $g$? Which of them are local extrema, and what kind of local extrema are they?

**Note** You are *not* asked to compute $f$ and $g$ explicitly.