1. If we have a model \( f(t) \) for the growth rate of a tumor as a function of time, why would we care to know when \( f'(t) = 0 \)?

2. Explain what is illustrated by Figure 5 in Section 4.2.

3. Suppose that \( f(x) = \frac{u(x)}{v(x)} \). Solve this equation for \( u(x) \) and use the product rule to find \( u'(x) \). Now solve for \( f'(x) \). What happens when you substitute back in the fact that \( f(x) = \frac{u(x)}{v(x)} \)?