

4. (6 points) Below is a graph of $q'(x)$, the derivative of $q(x)$.

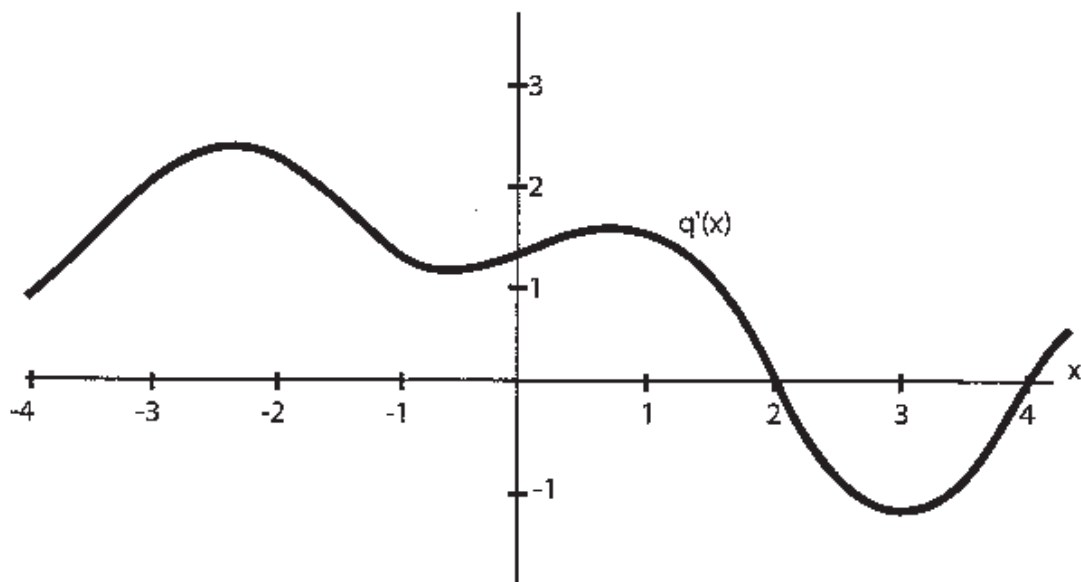


Figure 1: NOT the graph of $q(x)$

For what values of x is $q(x)$ both decreasing and concave down? Explain.

If q is decreasing, then $q'(x) \leq 0$,
so x has to be between 2 and 4.

If q is concave down, then the
derivative q' must be decreasing. If it (q')
also has to be ≤ 0 , then x must
be between 2 and 3:

$$2 \leq x \leq 3.$$