

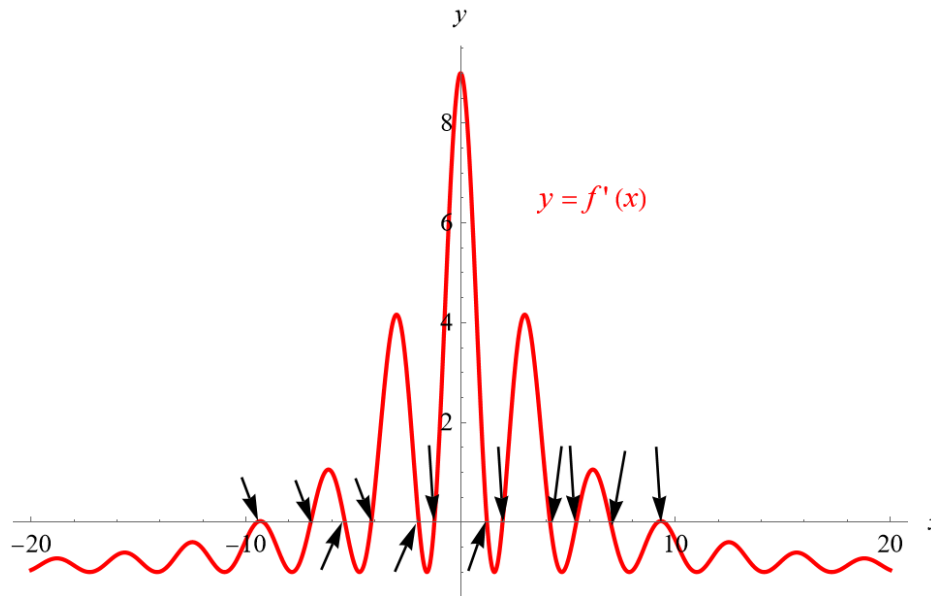
Exercise 46

A formula for the *derivative* of a function f is given. How many critical numbers does f have?

$$f'(x) = \frac{100 \cos^2 x}{10 + x^2} - 1$$

Solution

A critical number is a value of x for which the derivative is zero or nonexistent.



There are twelve places where the graph crosses the x -axis and no places where the graph does not exist. Therefore, there are twelve critical numbers.