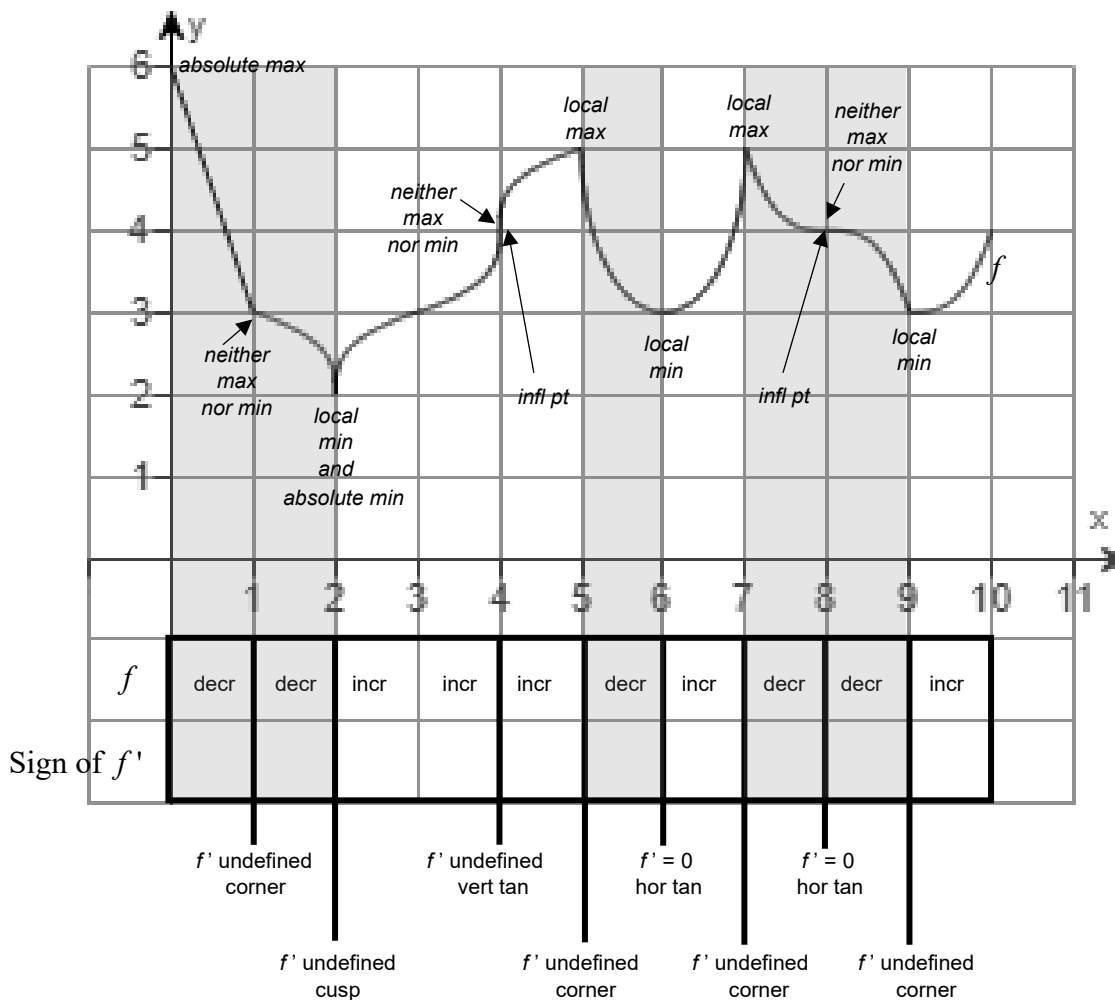


Ask for a Sign

We use sign tables to connect the properties of a function f to its derivative f' . Recall:

- We look for critical values of f in the interior of an interval on $a < x < b$.
In general, critical values of f occur at values of x where the derivative f' is _____.
- An **absolute** extreme point (max or min) on an interval may occur at a critical value or at _____.
- Use the word bank to complete each.
 - If f changes from decreasing to increasing at point P , then P is a _____
{max, min}
 - If f changes from increasing to decreasing at point P , then P is a _____
{max, min}
- In the sign table below, insert + or - for f' .



The graph of f and f' are shown below. Complete the blanks, using the graph of f' to help you.

A **horizontal tangent line** to f at a point P occurs where the two sided limit of the derivative f' is _____.

Vertical tangent lines of f are where the one sided limits of the derivative f' at P are infinities of _____; {opposite signs, the same sign}

f has **cusps or corners** where the one sided limits of the derivative f' at P on each side are _____.
Don't worry about distinguishing between cusps and corners. What is true in general about the one sided limit of the derivative on each side?

