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

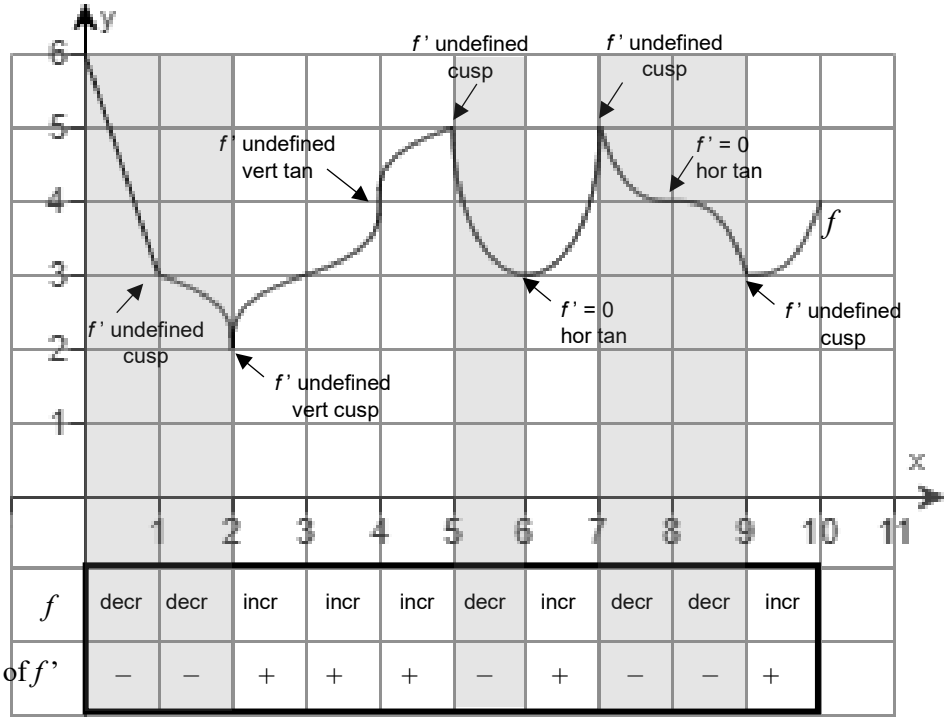
A **horizontal tangent line** to f at a point P occurs where the two sided limit of the derivative f' is _____ .

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** where the one sided limits of the derivative f' at P on each side are _____.
{opposite, the same}

f has **vertical cusps** are where the one sided limits of the derivative f' at P on each side are infinities of _____.
{opposite signs, the same sign}

What do you notice?



f	decr	decr	incr	incr	incr	decr	incr	decr	decr	incr
Sign of f'	−	−	+	+	+	−	+	−	−	+