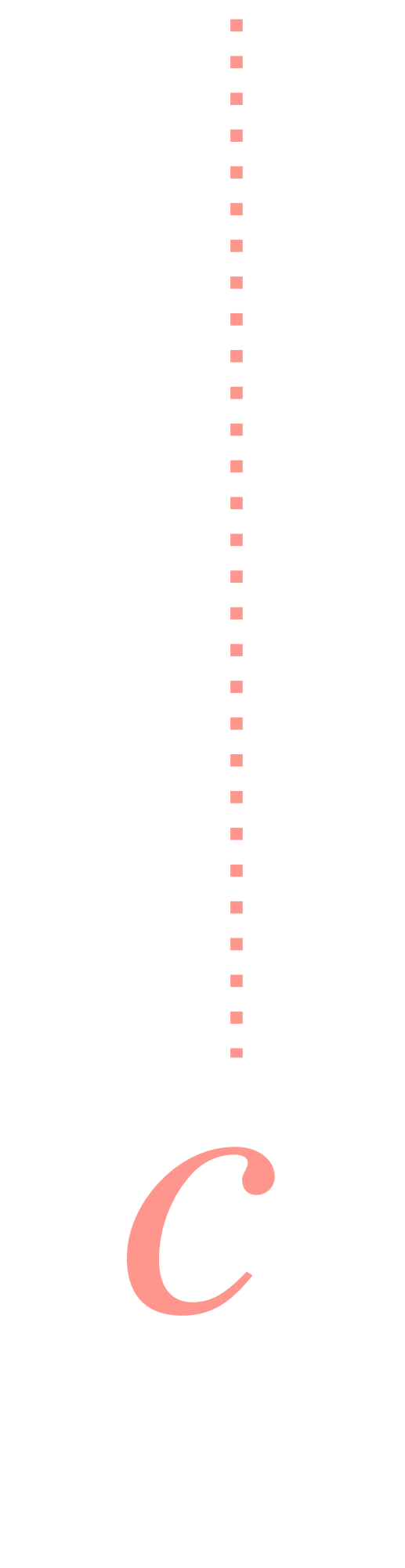
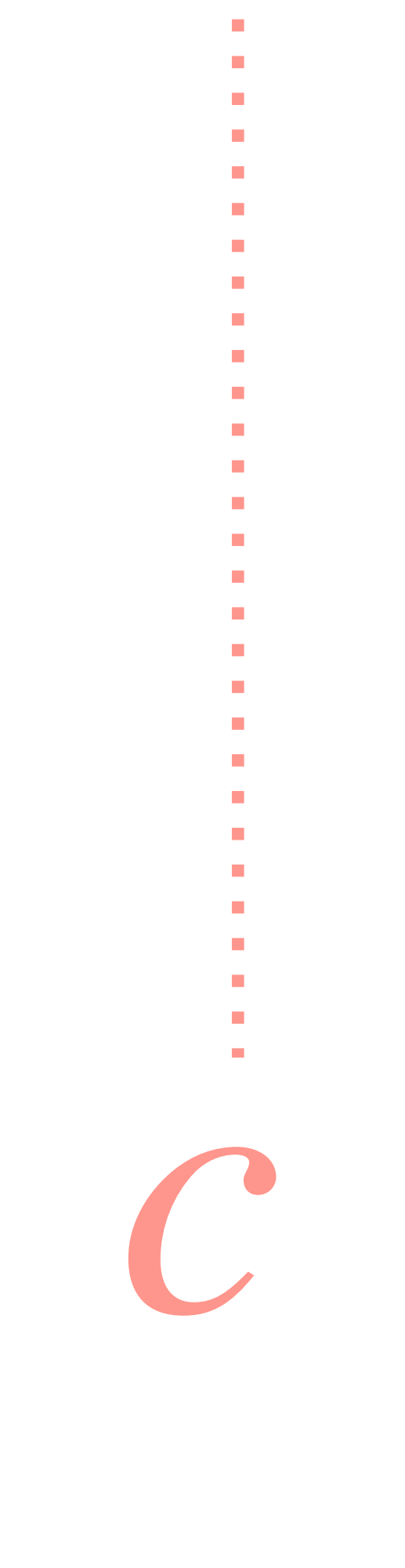
second derivative

The geometric interpretation of f'':





second derivative

The geometric interpretation of f'':

3. If $f'(c) = 0$ and $f''(c) = 0$ then the slope often doesn't change sign
   i.e. it goes from positive slope to zero to positive slope (decreasing to zero then increasing), or negative to zero to negative (increasing to zero then decreasing).

possible shapes: