

## Test Emulation

define areas of increase, decrease, concavity based on a graph of  $f(x)$  define areas of increase, decrease, concavity based on a graph of  $f'(x)$

given  $f'(x)$  determine the shape of critical points (including slope vertical line / cusp ones)

- sketch a rational
- sketch an irrational

determine asymptotes when given a function of the form  $\frac{x^3 \dots}{x^2 \dots}$

use the second derivative test

determine the inflection points of a second derivative

be able to determine  $a$   $b$   $c$  and  $d$  in  $ax^3 + bx^2 + cx + d$

draw a graph given information about zeros, where critical points are / aren't, where the graph is increasing / decreasing, concavity...