

MATH 1500 A01
Assignment #3
Due: Wednesday, Nov. 12th

1. (5 marks) Find y' if
 $y = (x^3 - 2x^2 + 1)^{\tan x}$

2. (5 marks) Find the absolute maximum and absolute minimum of
 $f(x) = x^3 - 12x + 7$ on $[0, 3]$

3. (10 marks) For the function

$$f(x) = \frac{x-2}{x^2-4}, \text{ find:}$$

- a) the domain of $f(x)$
- b) the x and y intercepts
- c) equations of vertical/ horizontal asymptotes
- d) the intervals of increase and decrease
- e) coordinates of any local maxima/minima
- f) intervals of concave up/concave down
- g) coordinates of any inflection points
- h) sketch $f(x)$