

- Show all your work for each problem; show enough work to fully justify your answer.
- Simplify all answers as far as possible.

(1) [Points: 10] Find dy/dx if $a^2x^2 + b^3y^3 + a^4b^4 = 0$, where a and b are constants (as usual).

(2) [Points: 25] The function $f(x) = 6x^{1/3} - 12x^{2/3}$ is defined on the interval $[-2, 2]$.

- Find all local maxima and also all local minima of $f(x)$ on that interval.
- Which (if any) are absolute maxima? absolute minima?
- Where is f increasing or decreasing?