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MTH 1733

QUIZ 2

Fall 1997

1. Sketch the curve $y = x^3 + \frac{3}{2}x^2 - 6x + 4$, indicating all relative extreme points and inflection points.

2. Use derivatives to estimate the value of $\sqrt[3]{27.5}$. Compare the answer to the calculator answer—to how many decimals do the two answers agree?

3. For each of the following curves, determine the equations of the asymptotes, if any:

(a) $y = \dfrac{x-1}{x^2-9}$

(b) $y = \dfrac{2x+2}{3x-4}$

(c) $y = \dfrac{x^3+2}{x^2+4}$

(d) $y = \dfrac{3}{\sqrt{x}} + \dfrac{x}{2} - 5$

4. Differentiate the following functions:

(a) $f(x) = (x^3 + x^{-\frac{2}{5}})(x^2 - x^{\frac{2}{5}})$

(b) $f(x) = ((x^2+1)^3+1)^4$

(c) $f(x) = \dfrac{\frac{1}{x} - x}{\frac{1}{x} + x}$