Quiz 4 (Group) for Mathematics 223
Introductory Analysis I - Spring 1999
Material Covered: Section 3.4 of text and notes
For: 19th March

This is a 15 minute quiz, worth 6% and marked out of 6 points. Although this is a group quiz, only *one* answer set is handed in for each group. The names of all members of the group *who contributed to this quiz* should appear on the cover sheet of the quiz.

Name 1 (please print): _____.
last first

Name 2 (please print): _____.
last first

Name 3 (please print): _____.
last first

Name 4 (please print): _____.
last first

(a) [1] $\lim_{x\to 0^+} \frac{1}{\sqrt[3]{x}} =$ (circle one)

(a) ∞ (b) $-\infty$ (c) 0 (d) 1 (e) none of the above

(b) [1] $\lim_{x\to\infty} \frac{2x^2}{x^2-10000} =$ _____.

(c) [2] $\lim_{x\to\sqrt{\frac{2}{3}}^+} \frac{2x+5}{3x^2-2} =$ _____.

(d) [2] The function $\frac{2x-7}{3x^2-2}$ has

1. vertical asymptote(s) at _____,

2. horizontal asymptote(s) at _____.

(a) [1] $\lim_{x\to 0^+} \frac{1}{\sqrt[3]{x}} = 0$

(b) [1] $\lim_{x\to\infty} \frac{2x^2}{x^2-10000} = 2$

(c) [2] $\lim_{x\to\sqrt{\frac{2}{3}}^+} \frac{2x+5}{3x^2-2} = +\infty$

(d) [2] The function $\frac{2x-7}{3x^2-2}$ has

1. vertical asymptote(s) at $x = \pm\sqrt{\frac{2}{3}}$
   since $\lim_{x\to\sqrt{\frac{2}{3}}^+} \frac{2x-7}{3x^2-2} = -\infty$ and $\lim_{x\to-\sqrt{\frac{2}{3}}^-} \frac{2x-7}{3x^2-2} = -\infty$
2. horizontal asymptote(s) at $y = 0$
   since $\lim_{x\to\infty} \frac{2x-7}{3x^2-2} = 0$