



Math 181
Recitation Quiz 2 (1.3 – 1.6)

Full Name _____
Full Name _____
Full Name _____
Date _____

Open notes, open book. No more than 3 per group.
All questions worth 10 points. No work = No credit.

1. Find $\lim_{x \rightarrow -3} \frac{x^2 - 2x - 15}{x + 3}$

2. Find $\lim_{x \rightarrow 0} \frac{\sqrt{x + 36} - 6}{x}$

3. Find $\lim_{x \rightarrow -6^+} \frac{x^2 + 4x - 12}{|x + 6|}$

4. Find $\lim_{x \rightarrow -6^-} \frac{x^2 + 4x - 12}{|x + 6|}$

5. Using information from 3 and 4, find $\lim_{x \rightarrow -6} \frac{x^2 + 4x - 12}{|x + 6|}$

6. Find $\lim_{x \rightarrow \infty} \frac{x^2 + 2x^3 + 7x}{3x - 4x^3 + 17x^2}$

7. Find $\lim_{x \rightarrow \infty} \frac{x^2 + 2x^3 + 7x}{3x - 4x^4 + 17x^2}$

8. Find $\lim_{x \rightarrow -\infty} \frac{x^2 + 2x^3 + 7x^5}{3x - 4x^4 + 17x^2}$

9. Find all asymptotes (vertical and horizontal) for $f(x) = \frac{(x - 4)(4 + 3x)(x + 2)}{(x + 2)(6 - 3x)(x + 12)}$

10. Sketch one **function** (and only one function) that has all of the following. Be sure to label...
- a) a removable discontinuity
 - b) an infinite discontinuity
 - c) a jump discontinuity
 - d) a horizontal asymptote
 - e) a vertical asymptote
 - f) at least one horizontal tangent