

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**To receive any credit for the following problems, you must show complete and accurate work. Use proper limit notation and give exact answers unless otherwise noted.**

Determine each of the following limits:

1.  $\lim_{x \rightarrow 2^+} \frac{4x}{x^2 - 7x + 10}$

2.  $\lim_{x \rightarrow 0^-} \frac{8 - x^2}{x^3 + 8x^2 - 10x}$

3. Given  $k(x) = \frac{5x^3 - 45x}{x^3 - x^2 - 6x}$ , determine all vertical asymptotes, if any, of  $k(x)$ . Justify that it is an asymptote using the concept of limits.