

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.**

1. Determine  $\lim_{x \rightarrow 5} (3x^2 - 7x + 4)$  by using the properties of limits to apply only the limit of a constant and the limit of the identity function.

Determine and justify each of the following limits analytically. (Do not just rely on a table of values!)

2.  $\lim_{x \rightarrow 10} (\pi)$

3.  $\lim_{x \rightarrow 6} \frac{x^2 - 3x - 18}{36 - x^2}$

4.  $\lim_{x \rightarrow -1} (4x^5 + 8x^4 + 7x - 10)$

5.  $\lim_{x \rightarrow 0} \frac{\frac{2}{x-7} + \frac{2}{7}}{x}$