NallPro® Education Centre
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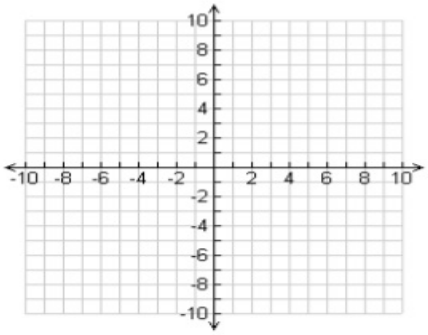
Graph Limits – 02 www.NallPro.com **Name:**

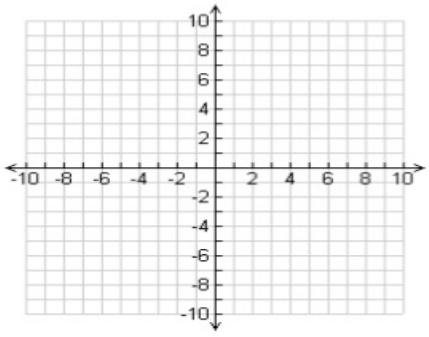
1. **(a)** Sketch the following function and determine $\lim_{x\to 3} f(x)$.
   (b) Is the function continuous at $x = -4$? If not, state which conditions of continuity are not met.

$$f(x) = \begin{cases} x; & x \le -4 \\ 5; & -4 < x < 3 \\ x^2 - 4; & x \ge 3 \end{cases}$$



2. Sketch the following function

$$f(x) = \begin{cases} 2 - x; & x < -1 \\ x; & -1 \le x < 1 \\ (x-1)^2; & x \ge 1 \end{cases}$$



And determine each of the following.

a) $\lim_{x\to -1^-} f(x) =$	b) $\lim_{x\to -1} f(x) =$
c) $\lim_{x\to -1^+} f(x) =$	d) $\lim_{x\to 0} f(x) =$
e) $\lim_{x\to 1^-} f(x) =$	f) $\lim_{x\to 1} f(x) =$
g) $\lim_{x\to 1^+} f(x) =$	h) $f(0) =$