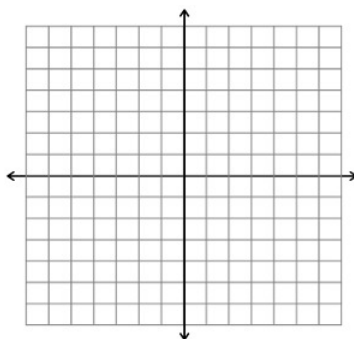Name: _____

Chapter 1 Review and Section 2.1

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1. Consider the following piecewise function.

$$f(x) = \begin{cases} x^2 - 1 & : x \leq 1 \\ 2 & : x > 1 \end{cases}$$

Sketch the graph of f below and find $f(-3)$.

2. The height in feet of a ball that is thrown into the air is given by $y = 45t - 16t^2$, where t is time in seconds.

a) Find the average velocity over the given time intervals.

i) $[1, 1.5]$ ii) $[1, 1.1]$

iii) $[1, 1.01]$ iv) $[1, 1.001]$

b) Estimate the instantaneous velocity at $t = 1$.