Name: _____

Clear your desk of everything excepts pens, pencils and erasers. If you have a question raise your hand and I will come to you.

1. (2 points) **Multiple Choice. No work needed. No partial credit available.** Let $f(x) = 1 - 3x$ and $\epsilon > 0$. What is the largest choice of δ for which $|x - 1| < \delta$ implies that $|f(x) + 2| < \epsilon$?

   A. $\delta = 1$
   B. $\delta = \epsilon$
   C. $\delta = \frac{\epsilon}{2}$
   D. $\delta = \frac{\epsilon}{3}$
   E. There is no value of δ that will work.

2. (1 point) **Fill-in-the-Blank. No work needed. No partial credit available.** The limit

$$\lim_{h \to 0} \frac{\sqrt{9+h} - 3}{h}$$

   is _____.

Extra Work Space.

Continue on to back side

3. (2 points) Suppose that $2x \leq g(x) \leq x^4 - x^2 + 2$ for all x. Compute the limit

$$\lim_{x \to 1} g(x)$$

and justify your answer.