

Name _____

- You have 20 minutes
- No calculators
- Show adequate work

In each problem, evaluate the limit, if it exists.

1. $\lim_{x \rightarrow 0} \frac{\sqrt{9+x} - 3}{2x}$

=

2. $\lim_{x \rightarrow 4^+} \frac{\sqrt{x}}{(4-x)^3}$

=

3. $\lim_{x \rightarrow 1} \frac{2^{x^3-x}}{\sin\left(\frac{\pi x}{4}\right)}$

=

4. $\lim_{x \rightarrow \infty} \frac{\sqrt{x^2 - 16}}{4 + 3x}$

=

5. $\lim_{x \rightarrow 5} \frac{x^2 - 25}{x^2 - 7x + 10}$

=