

Name: \_\_\_\_\_

Date: 09/14

MATH 125

Quiz 2A

**Problem 1.** Find the limit  $\lim_{x \rightarrow 1} \frac{1}{1-x} - \frac{2}{1-x^2}$ . (10 points)

**Problem 2.** Find the limit  $\lim_{x \rightarrow 1} (1-x) \tan \frac{\pi x}{2}$ . (10 points)  
[Hint:  $\cos x = \sin(\frac{\pi}{2} - x)$ .]

**Problem 3.** Show that there is a root of the equation  $x^3 - 3x + 1 = 0$  in the interval  $(-2, -1)$ . (10 points)

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Quiz 2B

**Problem 1.** Find the limit  $\lim_{x \rightarrow \frac{1}{2}} \frac{1}{1-2x} - \frac{3}{2-2x-4x^2}$ . (10 points)

**Problem 2.** Find the limit  $\lim_{x \rightarrow -1} (x+1) \tan \frac{\pi x}{2}$ . (10 points)

[Hint:  $\cos x = -\sin(\frac{\pi}{2} + x)$ .]

**Problem 3.** Show that there's a root of the equation  $\sin 2x = x^2 - 2$  in the interval  $(0, 2)$ . (10 points)

Final Score: \_\_\_\_\_