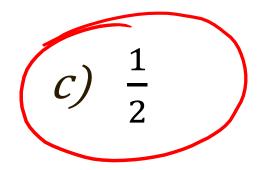
LESSON 20 MA 16100'FALL 2022 DR. HOOD

WARN UP Evaluate the limit:

$$\lim_{x \to 1} \frac{x^2 - x}{x^2 - 1} = \frac{0}{6}$$

 $= \lim_{x \to 1} \frac{\chi(x-1)}{(x-1)(x+1)} = \frac{1}{(+1)} = \frac{1}{-1} = \frac{1}{-1}$

a) 0 b)



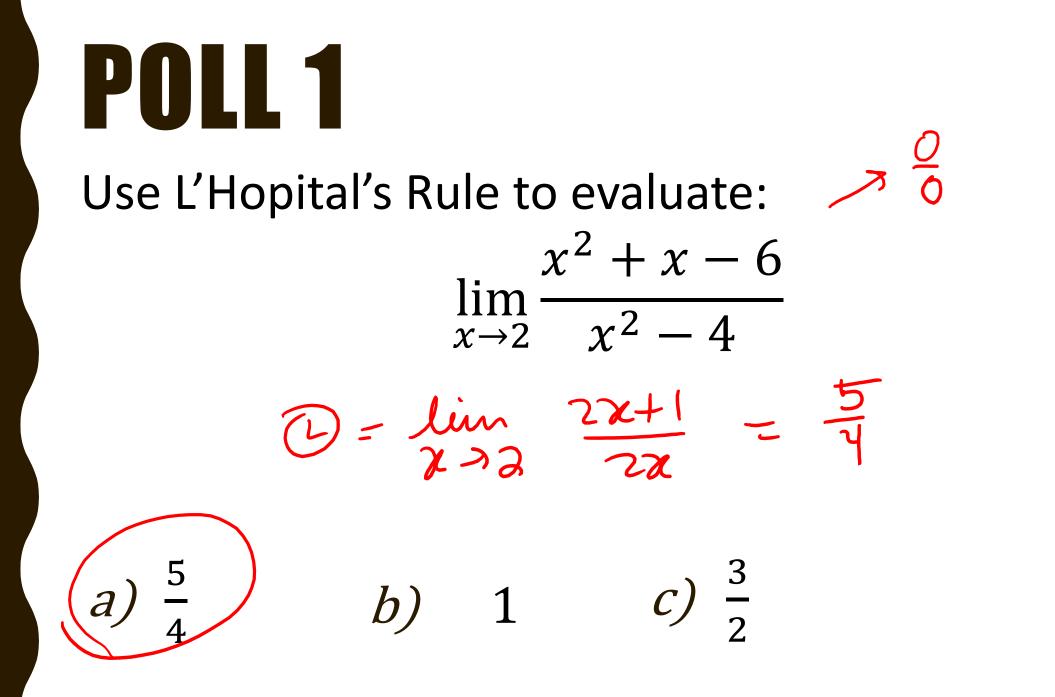
ANNOUNCEMENTS

Dr. Hood's Office Hours in Math 844
 Friday Nov 4 at 2-3pm

- TA's Office Hours in the <u>Math Resource Room</u>
 WTHR 313
 Mon Thu from 9:30am 8:30pm
 - Fri from 9:30am 3:30pm

ANNOUNCEMENTS

- Thanksgiving Break
 - –University Holiday is Wed Nov 23 Fri Nov 25
 - -MA 161 additional breaks:
 - No class on Mon Nov 21
 - No recitation on Tue Nov 22
 - No HW or Quizzes that week
 - No Office Hours on Mon Nov 21
 - Math Resource Room closed Mon Nov 21 Fri Nov 25





 $\approx (1)^{2} = 1$

True

a)

Discussion Question:

$$\lim_{x \to \infty} \left(1 + \frac{1}{x} \right)^x = 1?$$

~ (1+h) > 1

False

 $\begin{array}{c|cc} \chi & f(\chi) \\ \hline 10 & 2.593 \\ 100 & 2.713 \\ \hline 10^{4} & 2.718 \end{array}$

c) Not sure

POLL 3

Consider $f(x) = x^2$ and $g(x) = 2^x$. Which function grows faster as $x \to \infty$? lein 2/2 2700 2/2 *a*) x^2 $\lim_{\substack{x \to 0}} \frac{2x}{2^{2}} (\ln(z)) \stackrel{\bigcirc}{=} \lim_{\substack{x \to 0}} \frac{z}{2^{2}} (\ln(z))^{2}$ 2^{x} 2° grows faster than 7.2 They grow at the same rate