Notes **Name** _____

L'Hospital's Rule and the Trapezoidal Rule (4.4)

L'Hospital's Rule: Find the limit using L'Hospital's Rule.

1. $\lim_{x\to -2} \dfrac{x+2}{x^3+8}$

2. $\lim_{\theta\to \pi/2} \dfrac{1-\sin\theta}{\csc\theta}$

3. $\lim_{x\to 1} \dfrac{\ln x}{\sin \pi x}$

4. $\lim_{x\to \infty} \dfrac{e^x}{x^2}$

5. $\lim_{x\to \infty} \dfrac{\ln x}{\sqrt[3]{x}}$

6. $\lim_{x\to \pi^-} \dfrac{\sin x}{1-\cos x}$

Trapezoidal Rule: Find an approximation of the integral using the Trapezoidal Rule.

7. $\int_1^2 \frac{1}{x}\,dx, \quad n = 5$

8. $\int_0^9 f(x)\,dx$

X	0	2	3	7	9
f(x)	3	6	7	6	8