CALCULUS 2
6.8 L'HOSPITAL'S RULE

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Problem 1.

$$\lim_{x\to\infty}\frac{e^x}{x^2}$$

Problem 2.

$$\lim_{x\to\infty}\frac{x^{12}}{e^x+x^2}$$

Problem 3.

$$\lim_{x\to 0}\frac{\tan(x)-x}{x^3}$$

Problem 4.

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

Problem 5.

$$\lim_{x \to \infty} (\sqrt[3]{x} - \ln(x))$$

Problem 6.

$$\lim_{x\to\infty} x^{1/3^x}$$

Problem 7. For $0 \leq r \leq 1$ and $t \in (0, \infty)$, compute the limit

$$\lim_{n\to\infty} \left(1 + \frac{r}{n}\right)^{nt}$$