

SECTION 2-6 (DAY 1)

1. Use graphs to determine the limits at infinity below:

$$\lim_{x \rightarrow \infty} e^x =$$

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$$\lim_{x \rightarrow \infty} \frac{1}{x} =$$

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$$\lim_{x \rightarrow \infty} \frac{1}{x^2} =$$

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$$\lim_{x \rightarrow \infty} \frac{1}{x^n} =$$

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$$\lim_{x \rightarrow \infty} \arctan(x) =$$

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2. **Algebraically** find the limits below and draw a picture demonstrating what this limit indicates about the graph of the function.

$$\lim_{x \rightarrow \infty} \frac{3x^2 + 4x}{2x^2 + 7}$$

$$\lim_{x \rightarrow -\infty} \frac{3x^2 + 4x}{2x^4 + 7}$$

3. Find all vertical and horizontal asymptotes in the graph of the function $g(s) = \frac{\sqrt{3s^2 + 1}}{2s + 1}$.