Sections 2.6 and 2.7

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1. Evaluate the limit, if it exists.

a) $\displaystyle\lim_{x\to\infty} \frac{5x^2 - 6x + 1}{2x^2 - 3x - 5}$

b) $\displaystyle\lim_{x\to\infty} \frac{x^3 - 1}{\sqrt{x^6 + 1}}$

c) $\displaystyle\lim_{x\to\infty} \frac{x^4 - 8x^2 + x}{x^3 - x + 5}$

d) $\displaystyle\lim_{x\to\infty} \arctan(e^x)$

2. Find an equation of the tangent line to the curve $y = x^2 - 2$ at the point $(1, -1)$.