Review of limits @ Infinity

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9:50 AM

Horizontal Asympt.

Rational fcns

$f(x) = \frac{p(x)}{q(x)}$

- Equal deg → Ratio of lead coeff.
- $q(x) > p(x)$ → $y = 0$ (x-axis)
- $q(x) < p(x)$ → Slant Asympt. Synth/long Div. quot.

$$\lim_{x \to \infty} \frac{5 - x^2}{3x^2 + 7x + 2} = \boxed{\frac{-1}{3}}$$

$$\lim_{x \to -\infty} \frac{5x + 2}{3x^2 - 7} = \boxed{0} \qquad \lim_{x \to -\infty} \frac{3x^2 - 7}{5x + 2} = \boxed{-\infty}$$

p 76 #6, 7, 13-16 ; p95 6, 7, 33, 34, 55