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## Horizontal Asymptotes

### Effect of Degree on Rational Functions

$$a < b; \frac{x^a}{x^b}; y = 0$$

$$a = a; \frac{1x^a}{3x^a}; y = 1/3$$

$$a > b; \frac{x^a}{x^b}; \text{none (or oblique if } a - b = 1)$$

Find an oblique through long division of the numerator by the denominator.