$$y = \frac{x^4 + x^3}{x^3 - 1} \qquad m = \lim_{x \to +\infty} \frac{f(x)}{x}$$

$$m = \lim_{x \to +\infty} \frac{x^4 + x^3}{x^4 - x} = 1$$

$$q = \lim_{x \to +\infty} \left(f(x) - mx \right)$$

$$q = \lim_{x \to +\infty} \left(\frac{x^4 + x^3}{x^3 - 1} - x \right)$$

$$q = \lim_{x \to +\infty} \left(\frac{\cancel{x^4} + x^3 \cancel{- x^4} + x}{x^3 - 1} \right) \Rightarrow \lim_{x \to +\infty} \left(\frac{x^3 + x}{x^3 - 1} \right) = 1$$

AS. OBLIQUO

$y = x + 1$

$$y = \frac{4 - x^2}{3x + 1}$$

$$m = \lim_{x \to +\infty} \frac{f(x)}{x} = \lim_{x \to +\infty} \frac{4 - x^2}{3x^2 + x} = -\frac{1}{3}$$

$$q = \lim_{x \to +\infty} (f(x) - mx) = \lim_{x \to +\infty} \left(\frac{4 - x^2}{3x + 1} + \frac{1}{3} x \right)$$

$$\lim_{x \to +\infty} \left(\frac{3(4 - x^2) + x(3x + 1)}{3(3x + 1)} \right) = \lim_{x \to \infty} \left(\frac{12 - 3x^2 + 3x^2 + x}{3(3x + 1)} \right)$$

$$\lim_{x \to +\infty} \left(\frac{12 + x}{9x + 3} \right) = \frac{1}{9}$$

AS. OBL.

$$y = -\frac{1}{3} x + \frac{1}{9}$$

$$y = \frac{x - x^3}{x^2 - 4}$$

$m = -1$

$$q = \lim_{x \to \infty} (f(x) - mx) = \lim_{x \to \infty} \left(\frac{x - x^3}{x^2 - 4} + x \right) =$$

$$\lim_{x \to \infty} \frac{x - x^3 + x^3 - 4x}{x^2 - 4} = \lim_{x \to \infty} \frac{x - 4x}{x^2 - 4} = 0$$

AS. OBL.

$y = -x$

$$y = \frac{x^2-2x+1}{2x-1} \qquad m = \frac{1}{2}$$

$$q = \lim_{x \to +\infty} \left(\frac{x^2-2x+1}{2x-1} - \frac{x}{2} \right) = \lim_{x \to +\infty} \left(\frac{2x^2-4x+2-2x^2+x}{2(2x-1)} \right)$$

$$\lim_{x \to +\infty} \left(\frac{-3x+2}{4x-2} \right) = -\frac{3}{4}$$

AS. OB.

$$y = \frac{1}{2}x - \frac{3}{4}$$