

$$y = \sqrt{\frac{x^2-9}{x^4}}$$

$$(1c) \quad x^2-9 \geq 0 \quad x \neq 0$$

$$x \geq 3, \quad x \leq -3$$

$$(2) \quad y = \sqrt{\frac{x^2-9}{x^4}} \quad (\pm 3, 0)$$

$$(c) \quad n = \lim_{x \rightarrow \pm\infty} \sqrt{\frac{x^2-9}{x^4}} = \sqrt{\frac{1}{x^2} - \frac{9}{x^4}} = 0$$

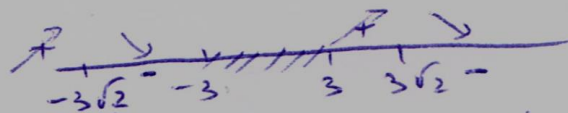
$$m = \lim_{x \rightarrow \pm\infty} \frac{1}{x} \sqrt{\frac{x^2-9}{x^4}} = 0$$

$$(3) \quad y' = \frac{1}{2} \sqrt{\frac{x^4}{x^2-9}} \cdot \frac{2x^5 - 4x^3(x^2-9)}{x^8} =$$

$$0 = \sqrt{\frac{x^4}{x^2-9}} \cdot \frac{-2x^5 + 36x^3}{x^8}$$

$$-2x^3(x^2-18) = 0$$

$$x \neq 0 \quad x = \pm 3\sqrt{2}$$



$$-3\sqrt{2} < x < -3, \quad x > 3\sqrt{2} \quad \text{and} \quad 3 < x < 3\sqrt{2}, \quad x < -3\sqrt{2} \quad \text{and} \quad x > 3$$

$$\max(-3\sqrt{2}, \frac{1}{6}) \quad \max(3\sqrt{2}, \frac{1}{6})$$

