

Def 2 (b) p A.14

SA voor $x \rightarrow -\infty$

$$f(x) = \sqrt{\frac{-4x^3}{2-x}}$$

$$a = \lim_{x \rightarrow -\infty} \frac{\sqrt{\frac{-4x^3}{2-x}}}{x} \quad \begin{matrix} +\infty \\ -\infty \end{matrix} = \text{ONB}$$

$$= \lim_{x \rightarrow -\infty} \frac{-x \sqrt{\frac{-4x}{2-x}}}{x}$$

$$= -\sqrt{4} = -2 \in \mathbb{R}_0$$

$$b = \lim_{x \rightarrow -\infty} \left(\sqrt{\frac{-4x^3}{2-x}} + 2x \right) \quad \begin{matrix} +\infty - \infty \\ = \text{ONB} \end{matrix}$$

$$= \lim_{x \rightarrow -\infty} \left(\sqrt{\frac{-4x^3}{2-x}} + 2x \right) \cdot \frac{\left(\sqrt{\frac{-4x^3}{2-x}} - 2x \right)}{\sqrt{\frac{-4x^3}{2-x}} - 2x}$$

$$\sqrt{x^2} = \begin{cases} x & x > 0 \\ -x & x < 0 \end{cases}$$

$$= \lim_{x \rightarrow -\infty} \frac{\frac{-4x^3}{2-x} - 4x^2}{\sqrt{\frac{-4x^3}{2-x}} - 2x}$$

$$= \lim_{x \rightarrow -\infty} \frac{-4x^3 - 8x^2 + 4x^3}{(2-x) \left(\sqrt{\frac{-4x^3}{2-x}} - 2x \right)}$$

$$= \lim_{x \rightarrow -\infty} \frac{-8x^2}{x^2 \left(\frac{2}{x} - 1 \right) \left(-\sqrt{\frac{-4x}{2-x}} - 2 \right)}$$

$$= \frac{-8}{-1 \cdot (-2-2)} = -2$$

$$\Rightarrow \text{SA in } -\infty: y = -2x - 2$$