

A2 d) \rightarrow

$$6t - \frac{3}{2}tv = t \cdot (v^2 - v - 4v + 4)$$

$$6t - \frac{3}{2}tv = tv^2 - 5tv + 4t$$

$$0 = tv^2 - \frac{7}{2}tv - 2t$$

$$0 = t \cdot (v^2 - \frac{7}{2}v - 2) \quad t \neq 0$$

$$v^2 - \frac{7}{2}v - 2 = 0$$

$$v_{1/2} = \frac{7}{4} \pm \sqrt{\frac{49}{16} + \frac{32}{16}}$$

$$v_{1/2} = \frac{7}{4} \pm \frac{9}{4}$$

$$(v_1 = 4) \quad \text{da } v < 1$$

$$v_2 = -\frac{1}{2}$$

$$A'(-\frac{1}{2}) > 0$$

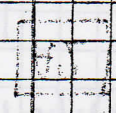
Minimum
Maximum

(ohne Herleitung)

$$d) \quad \pi \int_{-1}^1 5^2 dx - \pi \int_{-1}^1 \left(\frac{x^2 - 16}{x^2 - 4} \right)^2 dx$$

$$GTR: \quad 50\pi - 37,07\pi = 12,93\pi \approx 40,62V \in$$

$$f(x) = \frac{x^2 - 16}{x^2 - 4} = \frac{(x-4)(x+4)}{(x-2)(x+2)} = \frac{5x^2 - 5x^2 - 5x^2 + 5x^2}{5x^2 - 5x^2 - 5x^2 + 5x^2}$$



$$f(x) = \frac{x^2 - 16}{x^2 - 4}$$

$$v = \frac{15}{15 - 15 + 15}$$

maximaler Wert