

Lijn en wortelgrafiek

$$21. \quad -\sqrt{x+9} + 2 = -\frac{1}{3}x \quad \rightarrow \quad \left(\frac{1}{3}x + 2\right)^2 = x + 9$$

$$\frac{1}{9}x^2 + \frac{1}{3}x - 5 = 0 \quad \rightarrow \quad x = \frac{-\frac{1}{3} + \sqrt{\frac{1}{9} + \frac{20}{9}}}{\frac{2}{9}} = 5,37$$

$$\text{Snijpunt: } (5,4 ; g(5,4)) = (5,4 ; -1,8)$$

Of met de GR:

$$y_1 = -\sqrt{x+9} + 2 \quad y_2 = -\frac{1}{3}x$$

$$\text{Intersect} \quad \rightarrow \quad x = 5,37$$

$$22. \quad h(x) = \frac{1}{3}x \cdot \sqrt{x+9}$$

$$\frac{dh}{dx} = \frac{1}{3} \cdot \sqrt{x+9} + \frac{\frac{1}{3}x}{2\sqrt{x+9}} = 0$$

$$\frac{2}{3}(x+9) = -\frac{1}{3}x \quad \rightarrow \quad x = \frac{-18}{3} = -6$$

$$\text{minimum } h(-6) = -2\sqrt{3}$$