$$f(x) = x^2 - 3$$

$$x_{k+1} = x_k - \frac{f(x_k)}{f'(x_k)}$$

$$= x_k - \frac{x_k^2 - 3}{2x_k}$$

$$\boxed{x_{k+1} = \frac{1}{2}x_k + \frac{3}{2}x_k}$$

$$x = \sqrt{3} = 1.732$$

$$x_0 = 1.7, \quad \underline{\qquad} \quad \cdot 7.3 \times 10^{-2}$$

$$x_1 = 1.7324 \longrightarrow \quad 3.0 \times 10^{-4}$$

$$x_2 = 1.7321 \longrightarrow \quad 2.6 \times 10^{-8}$$

$$x_3 = 1.7321 \sim \quad 4.4 \times 10^{-16}$$