

Oppervlakte

$$5. \quad f'(x) = \frac{1}{2\sqrt{x-1}} \quad \rightarrow \quad f'(10) = \frac{1}{6}$$

$$y = \frac{1}{6}x + b \text{ door } P(10, 3) \quad \rightarrow \quad b = 3 - \frac{1}{6} \cdot 10 = \frac{4}{3}$$
$$\rightarrow \quad k: \quad y \rightarrow \frac{1}{6}x + \frac{4}{3}$$

$$6. \quad \frac{1}{6}x + \frac{4}{3} = 0 \quad \rightarrow \quad x = -8$$

$$A = \int_8^{10} \left(\frac{1}{6}x + \frac{4}{3}\right) dx - \int_1^{10} (\sqrt{x-1}) dx = \left[\frac{x^2}{12} + \frac{4x}{3}\right]_{-8}^{10} - \left[\frac{2}{3}(x-1)^{\frac{3}{2}}\right]_1^{10} =$$

$$8\frac{1}{3} + 13\frac{1}{3} - 5\frac{1}{3} + 10\frac{2}{3} - 18 = 9$$