$$y = \dfrac{1}{(x^3 - 2x^2 + 5x - 1)^3}$$

$$y = \dfrac{1}{u} \qquad \text{und} \qquad u = v^3 \qquad \text{und} \qquad v = x^3 - 2x^2 + 5x - 1$$

$$y' = -\dfrac{1}{u^2} \qquad\qquad u' = 3v^2 \qquad\qquad v' = 3x^2 - -4x + 5$$

$$y' = -\dfrac{1}{u^2} \bullet u' \bullet v'$$

$$= -\dfrac{1}{(v^3)^2} \cdot 3v^2 \cdot v' = -\dfrac{1}{v^6} \cdot 3v^2 \cdot v'$$

$$= -\dfrac{3v'}{v^4}$$

$$= -\dfrac{3(3x^2 - 4x + 5)}{(x^3 - 2x^2 + 5x - 1)^4}$$

Variante für Leute, die Potenzrechnen können:

$$y = \dfrac{1}{(x^3 - 2x^2 + 5x - 1)^3} = (x^3 - 2x^2 + 5x - 1)^{-3}$$

$$y = u^{-3} \qquad\qquad \text{und} \qquad u = x^3 - 2x^2 + 5x - 1$$

$$y' = -3u^{-4} = -\dfrac{3}{u^4} \qquad\qquad u' = 3x^2 - 4x + 5$$

$$y' = \dfrac{-3}{(x^3 - 2x^2 + 5x - 1)^4} \bullet (3x^2 - 4x + 5)$$

$$= \dfrac{-3(3x^2 - 4x + 5)}{(x^3 - 2x^2 + 5x - 1)^4}$$