Notation for higher derivatives:

$$\frac{dy}{dx}, \quad \frac{d^2y}{dx^2}, \quad \frac{d^3y}{dx^3}, \quad \frac{d^4y}{dx^4}, \cdots \frac{d^ny}{dx^n}, \cdots$$

or

$$f'(x), \quad f''(x), \quad f^{(3)}(x), \quad f^{(4)}(x), \cdots f^{(n)}(x), \cdots$$

or

$$y', \quad y'', \quad y^{(3)}, \quad y^{(4)}, \cdots y^{(n)}, \cdots$$

Example 1. Let $y = x^6 - 2x^5 - x^4$. Then find $\dfrac{d^3y}{dx^3}$.

Example 2. For $f(x) = \dfrac{x}{x-2}$, find $f^{(4)}(x)$.