

Diffrentiation = अवकलन

01. Constant rule

$$\frac{d}{dx}(c) = 0$$

$$\frac{d}{dx}(2) = 0 \text{ Ans}$$

$$\frac{d}{dx}(5) = 0 \text{ Ans}$$

$$\frac{d}{dx}(15) = 0 \text{ Ans}$$

02. Power rule

$$\frac{d}{dx}(x^n) = nx^{n-1}$$

$$y = x^2$$

$$\frac{d}{dx}(x^2) = 2x^{2-1} = 2x \text{ Ans}$$

$$y = x^5$$

$$\frac{d}{dx}(x^5) = 5x^{5-1} = 5x^4 \text{ Ans}$$

03. Constant multiple rule

$$\frac{d}{dx}(cx^n) = c \frac{d}{dx}(nx^{n-1}) = c \cdot x^{n-1}$$

$$y = 3x^4$$

$$\frac{d}{dx}(3x^4) = 3 \frac{d}{dx}(4x^{4-1}) = 3(4x^3) = 12x^3 \text{ Ans}$$

$$y = 2x^5$$

$$\frac{d}{dx}(2x^5) = 2 \frac{d}{dx}(5x^{5-1}) = 2(5x^4) = 10x^4 \text{ Ans}$$