

- (א) $\frac{1}{x^2} = x^{-2}$ $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$ $\frac{d}{dx} \frac{1}{x^2} = -\frac{2}{x^3}$
- (ב) $\frac{1}{x^3} = x^{-3}$ $\frac{d}{dx} x^{-3} = -3x^{-4} = -\frac{3}{x^4}$ $\frac{d}{dx} \frac{1}{x^3} = -\frac{3}{x^4}$
- (ג) $\frac{1}{x^4} = x^{-4}$ $\frac{d}{dx} x^{-4} = -4x^{-5} = -\frac{4}{x^5}$ $\frac{d}{dx} \frac{1}{x^4} = -\frac{4}{x^5}$

(8) שאלה 8

- (א) $y = x^2 + 3x - 5$ $\frac{d}{dx} (x^2 + 3x - 5) = 2x + 3$
- (ב) $y = \frac{1}{x} = x^{-1}$ $\frac{d}{dx} x^{-1} = -x^{-2} = -\frac{1}{x^2}$
- (ג) $y = \sqrt{x} = x^{\frac{1}{2}}$ $\frac{d}{dx} x^{\frac{1}{2}} = \frac{1}{2} x^{-\frac{1}{2}} = \frac{1}{2\sqrt{x}}$
- (ד) $y = \frac{1}{\sqrt{x}} = x^{-\frac{1}{2}}$ $\frac{d}{dx} x^{-\frac{1}{2}} = -\frac{1}{2} x^{-\frac{3}{2}} = -\frac{1}{2x\sqrt{x}}$

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(9) שאלה 9

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בשאלה 8, חלק א, נמצא $\frac{d}{dx} \frac{1}{x^2} = -\frac{2}{x^3}$ בשנת 2002, $x = 3$