



5.  $\frac{1}{x^2} = x^{-2}$   $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$   $\frac{d}{dx} \frac{1}{x^2} = -\frac{2}{x^3}$
6.  $\frac{1}{x^3} = x^{-3}$   $\frac{d}{dx} x^{-3} = -3x^{-4} = -\frac{3}{x^4}$   $\frac{d}{dx} \frac{1}{x^3} = -\frac{3}{x^4}$
7.  $\frac{1}{x^4} = x^{-4}$   $\frac{d}{dx} x^{-4} = -4x^{-5} = -\frac{4}{x^5}$   $\frac{d}{dx} \frac{1}{x^4} = -\frac{4}{x^5}$
8.  $\frac{1}{x^5} = x^{-5}$   $\frac{d}{dx} x^{-5} = -5x^{-6} = -\frac{5}{x^6}$   $\frac{d}{dx} \frac{1}{x^5} = -\frac{5}{x^6}$

**دکترای مهندسی:**

در حالی که  $\frac{d}{dx} x^n = nx^{n-1}$   $\frac{d}{dx} x^{-n} = -nx^{-n-1}$   $\frac{d}{dx} \frac{1}{x^n} = -\frac{n}{x^{n+1}}$

دکترای مهندسی:

- $\frac{d}{dx} x^n = nx^{n-1}$
- $\frac{d}{dx} x^{-n} = -nx^{-n-1}$
- $\frac{d}{dx} \frac{1}{x^n} = -\frac{n}{x^{n+1}}$
- $\frac{d}{dx} x^{-1} = -x^{-2} = -\frac{1}{x^2}$
- $\frac{d}{dx} \frac{1}{x} = -\frac{1}{x^2}$
- $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$
- $\frac{d}{dx} \frac{1}{x^2} = -\frac{2}{x^3}$
- $\frac{d}{dx} x^{-3} = -3x^{-4} = -\frac{3}{x^4}$
- $\frac{d}{dx} \frac{1}{x^3} = -\frac{3}{x^4}$
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- $\frac{d}{dx} x^{-5} = -5x^{-6} = -\frac{5}{x^6}$
- $\frac{d}{dx} \frac{1}{x^5} = -\frac{5}{x^6}$
- $\frac{d}{dx} x^{-6} = -6x^{-7} = -\frac{6}{x^7}$
- $\frac{d}{dx} \frac{1}{x^6} = -\frac{6}{x^7}$
- $\frac{d}{dx} x^{-7} = -7x^{-8} = -\frac{7}{x^8}$
- $\frac{d}{dx} \frac{1}{x^7} = -\frac{7}{x^8}$
- $\frac{d}{dx} x^{-8} = -8x^{-9} = -\frac{8}{x^9}$
- $\frac{d}{dx} \frac{1}{x^8} = -\frac{8}{x^9}$
- $\frac{d}{dx} x^{-9} = -9x^{-10} = -\frac{9}{x^{10}}$
- $\frac{d}{dx} \frac{1}{x^9} = -\frac{9}{x^{10}}$







