

2. $\frac{1}{x^2} = x^{-2}$ $\frac{d}{dx} x^{-2} = -2x^{-3} = -\frac{2}{x^3}$ $\frac{d}{dx} \frac{1}{x^2} = -\frac{2}{x^3}$

3. $\frac{1}{x^3} = x^{-3}$ $\frac{d}{dx} x^{-3} = -3x^{-4} = -\frac{3}{x^4}$ $\frac{d}{dx} \frac{1}{x^3} = -\frac{3}{x^4}$

4. $\frac{1}{x^4} = x^{-4}$ $\frac{d}{dx} x^{-4} = -4x^{-5} = -\frac{4}{x^5}$ $\frac{d}{dx} \frac{1}{x^4} = -\frac{4}{x^5}$

5. $\frac{1}{x^5} = x^{-5}$ $\frac{d}{dx} x^{-5} = -5x^{-6} = -\frac{5}{x^6}$ $\frac{d}{dx} \frac{1}{x^5} = -\frac{5}{x^6}$

4. $\frac{d}{dx} x^4 = 4x^3$ $\frac{d}{dx} x^5 = 5x^4$ $\frac{d}{dx} x^6 = 6x^5$ $\frac{d}{dx} x^7 = 7x^6$ $\frac{d}{dx} x^8 = 8x^7$ $\frac{d}{dx} x^9 = 9x^8$ $\frac{d}{dx} x^{10} = 10x^9$

5. (a) $\frac{d}{dx} x^3 = 3x^2$ $\frac{d}{dx} x^4 = 4x^3$ $\frac{d}{dx} x^5 = 5x^4$ $\frac{d}{dx} x^6 = 6x^5$ $\frac{d}{dx} x^7 = 7x^6$ $\frac{d}{dx} x^8 = 8x^7$ $\frac{d}{dx} x^9 = 9x^8$ $\frac{d}{dx} x^{10} = 10x^9$ $\frac{d}{dx} x^{11} = 11x^{10}$ $\frac{d}{dx} x^{12} = 12x^{11}$ $\frac{d}{dx} x^{13} = 13x^{12}$ $\frac{d}{dx} x^{14} = 14x^{13}$ $\frac{d}{dx} x^{15} = 15x^{14}$ $\frac{d}{dx} x^{16} = 16x^{15}$ $\frac{d}{dx} x^{17} = 17x^{16}$ $\frac{d}{dx} x^{18} = 18x^{17}$ $\frac{d}{dx} x^{19} = 19x^{18}$ $\frac{d}{dx} x^{20} = 20x^{19}$

(a) $\frac{d}{dx} x^{15} = 15x^{14}$ $\frac{d}{dx} x^{16} = 16x^{15}$ $\frac{d}{dx} x^{17} = 17x^{16}$ $\frac{d}{dx} x^{18} = 18x^{17}$ $\frac{d}{dx} x^{19} = 19x^{18}$ $\frac{d}{dx} x^{20} = 20x^{19}$

6. (a) $\frac{d}{dx} x^2 = 2x$ $\frac{d}{dx} x^3 = 3x^2$ $\frac{d}{dx} x^4 = 4x^3$ $\frac{d}{dx} x^5 = 5x^4$ $\frac{d}{dx} x^6 = 6x^5$ $\frac{d}{dx} x^7 = 7x^6$ $\frac{d}{dx} x^8 = 8x^7$ $\frac{d}{dx} x^9 = 9x^8$ $\frac{d}{dx} x^{10} = 10x^9$ $\frac{d}{dx} x^{11} = 11x^{10}$ $\frac{d}{dx} x^{12} = 12x^{11}$ $\frac{d}{dx} x^{13} = 13x^{12}$ $\frac{d}{dx} x^{14} = 14x^{13}$ $\frac{d}{dx} x^{15} = 15x^{14}$ $\frac{d}{dx} x^{16} = 16x^{15}$ $\frac{d}{dx} x^{17} = 17x^{16}$ $\frac{d}{dx} x^{18} = 18x^{17}$ $\frac{d}{dx} x^{19} = 19x^{18}$ $\frac{d}{dx} x^{20} = 20x^{19}$

(a) $\frac{d}{dx} x^{20} = 20x^{19}$ $\frac{d}{dx} x^{21} = 21x^{20}$ $\frac{d}{dx} x^{22} = 22x^{21}$ $\frac{d}{dx} x^{23} = 23x^{22}$ $\frac{d}{dx} x^{24} = 24x^{23}$ $\frac{d}{dx} x^{25} = 25x^{24}$ $\frac{d}{dx} x^{26} = 26x^{25}$ $\frac{d}{dx} x^{27} = 27x^{26}$ $\frac{d}{dx} x^{28} = 28x^{27}$ $\frac{d}{dx} x^{29} = 29x^{28}$ $\frac{d}{dx} x^{30} = 30x^{29}$

(a) $\frac{d}{dx} x^{30} = 30x^{29}$ $\frac{d}{dx} x^{31} = 31x^{30}$ $\frac{d}{dx} x^{32} = 32x^{31}$ $\frac{d}{dx} x^{33} = 33x^{32}$ $\frac{d}{dx} x^{34} = 34x^{33}$ $\frac{d}{dx} x^{35} = 35x^{34}$ $\frac{d}{dx} x^{36} = 36x^{35}$ $\frac{d}{dx} x^{37} = 37x^{36}$ $\frac{d}{dx} x^{38} = 38x^{37}$ $\frac{d}{dx} x^{39} = 39x^{38}$ $\frac{d}{dx} x^{40} = 40x^{39}$

7. $\frac{d}{dx} x^2 = 2x$ $\frac{d}{dx} x^3 = 3x^2$ $\frac{d}{dx} x^4 = 4x^3$ $\frac{d}{dx} x^5 = 5x^4$ $\frac{d}{dx} x^6 = 6x^5$ $\frac{d}{dx} x^7 = 7x^6$ $\frac{d}{dx} x^8 = 8x^7$ $\frac{d}{dx} x^9 = 9x^8$ $\frac{d}{dx} x^{10} = 10x^9$ $\frac{d}{dx} x^{11} = 11x^{10}$ $\frac{d}{dx} x^{12} = 12x^{11}$ $\frac{d}{dx} x^{13} = 13x^{12}$ $\frac{d}{dx} x^{14} = 14x^{13}$ $\frac{d}{dx} x^{15} = 15x^{14}$ $\frac{d}{dx} x^{16} = 16x^{15}$ $\frac{d}{dx} x^{17} = 17x^{16}$ $\frac{d}{dx} x^{18} = 18x^{17}$ $\frac{d}{dx} x^{19} = 19x^{18}$ $\frac{d}{dx} x^{20} = 20x^{19}$

