

3. $\int_0^1 x^2 dx = \frac{1}{3} x^3 \Big|_0^1 = \frac{1}{3} (1^3 - 0^3) = \frac{1}{3}$
4. $\int_1^2 x^{-2} dx = \int_1^2 x^{-2} dx = -x^{-1} \Big|_1^2 = -\frac{1}{2} - (-1) = -\frac{1}{2} + 1 = \frac{1}{2}$
5. $\int_0^1 x^3 dx = \frac{1}{4} x^4 \Big|_0^1 = \frac{1}{4} (1^4 - 0^4) = \frac{1}{4}$
6. $\int_0^1 x^2 dx = \frac{1}{3} x^3 \Big|_0^1 = \frac{1}{3} (1^3 - 0^3) = \frac{1}{3}$
7. $\int_0^1 x^4 dx = \frac{1}{5} x^5 \Big|_0^1 = \frac{1}{5} (1^5 - 0^5) = \frac{1}{5}$
8. $\int_0^1 x^5 dx = \frac{1}{6} x^6 \Big|_0^1 = \frac{1}{6} (1^6 - 0^6) = \frac{1}{6}$
9. $\int_0^1 x^6 dx = \frac{1}{7} x^7 \Big|_0^1 = \frac{1}{7} (1^7 - 0^7) = \frac{1}{7}$
10. $\int_0^1 x^7 dx = \frac{1}{8} x^8 \Big|_0^1 = \frac{1}{8} (1^8 - 0^8) = \frac{1}{8}$

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$\int_0^1 x^8 dx = \frac{1}{9} x^9 \Big|_0^1 = \frac{1}{9} (1^9 - 0^9) = \frac{1}{9}$
 $\int_0^1 x^9 dx = \frac{1}{10} x^{10} \Big|_0^1 = \frac{1}{10} (1^{10} - 0^{10}) = \frac{1}{10}$
 $\int_0^1 x^{10} dx = \frac{1}{11} x^{11} \Big|_0^1 = \frac{1}{11} (1^{11} - 0^{11}) = \frac{1}{11}$
 $\int_0^1 x^{11} dx = \frac{1}{12} x^{12} \Big|_0^1 = \frac{1}{12} (1^{12} - 0^{12}) = \frac{1}{12}$
 $\int_0^1 x^{12} dx = \frac{1}{13} x^{13} \Big|_0^1 = \frac{1}{13} (1^{13} - 0^{13}) = \frac{1}{13}$