



سہولت نمبر : (IUL)23-HRD(LR)/23/2021/44

مہنت

مہنت	مہنت
J-280453	مہنت
01 (مہنت)	مہنت
مہنت	مہنت
1	مہنت
مہنت	مہنت
مہنت	مہنت
مہنت	مہنت
5610/-	مہنت
2500/-	مہنت
<p>1. مہنت</p> <p>2. مہنت</p> <p>3. مہنت</p> <p>4. مہنت</p>	مہنت
<p>1. مہنت</p> <p>2. مہنت</p> <p>3. مہنت</p>	مہنت

2. $\int \frac{1}{x^2} dx = -\frac{1}{x} + C$ (where C is an arbitrary constant)
3. $\int \frac{1}{x^3} dx = -\frac{1}{2x^2} + C$
4. $\int \frac{1}{x^4} dx = -\frac{1}{3x^3} + C$
5. $\int \frac{1}{x^5} dx = -\frac{1}{4x^4} + C$

(a) $\int \frac{1}{x^2} dx = -\frac{1}{x} + C$
 where C is an arbitrary constant.
 For $\int \frac{1}{x^3} dx$, let $u = x^{-2}$, then $du = -2x^{-3} dx$
 so $-\frac{1}{2} du = \frac{1}{x^3} dx$.
 $\int \frac{1}{x^3} dx = -\frac{1}{2} \int du = -\frac{1}{2} u + C = -\frac{1}{2x^2} + C$

(b) $\int \frac{1}{x^4} dx = -\frac{1}{3x^3} + C$
 where C is an arbitrary constant.
 $\int \frac{1}{x^5} dx = -\frac{1}{4x^4} + C$

6. $\int \frac{1}{x^2} dx = -\frac{1}{x} + C$

(a) $\int \frac{1}{x^2} dx = -\frac{1}{x} + C$
 where C is an arbitrary constant.
 For $\int \frac{1}{x^3} dx$, let $u = x^{-2}$, then $du = -2x^{-3} dx$
 so $-\frac{1}{2} du = \frac{1}{x^3} dx$.
 $\int \frac{1}{x^3} dx = -\frac{1}{2} \int du = -\frac{1}{2} u + C = -\frac{1}{2x^2} + C$

(b) $\int \frac{1}{x^4} dx = -\frac{1}{3x^3} + C$
 where C is an arbitrary constant.
 For $\int \frac{1}{x^5} dx$, let $u = x^{-4}$, then $du = -4x^{-5} dx$
 so $-\frac{1}{4} du = \frac{1}{x^5} dx$.
 $\int \frac{1}{x^5} dx = -\frac{1}{4} \int du = -\frac{1}{4} u + C = -\frac{1}{4x^4} + C$

(c) $\int \frac{1}{x^6} dx = -\frac{1}{5x^5} + C$
 where C is an arbitrary constant.
 For $\int \frac{1}{x^7} dx$, let $u = x^{-6}$, then $du = -6x^{-7} dx$
 so $-\frac{1}{6} du = \frac{1}{x^7} dx$.
 $\int \frac{1}{x^7} dx = -\frac{1}{6} \int du = -\frac{1}{6} u + C = -\frac{1}{6x^6} + C$

(d) $\int \frac{1}{x^8} dx = -\frac{1}{7x^7} + C$
 where C is an arbitrary constant.
 For $\int \frac{1}{x^9} dx$, let $u = x^{-8}$, then $du = -8x^{-9} dx$
 so $-\frac{1}{8} du = \frac{1}{x^9} dx$.
 $\int \frac{1}{x^9} dx = -\frac{1}{8} \int du = -\frac{1}{8} u + C = -\frac{1}{8x^8} + C$

