

$$\int_1^5 u^{-3} + \cos(u) \, du$$

$$\int \frac{1}{u^3} \, du + \int \cos(u) \, du$$

$$\int \frac{1}{u^n} \, du = -\frac{1}{(n-1)u^{n-1}}$$

$$\frac{1}{(3-1)u^{3-1}}$$

$$\frac{1}{2u^2} + \sin(u)$$

$$\left(-\frac{1}{2u^2} + \sin(u) \right) \Big|_1^5$$

$$= -\frac{1}{2(5)^2} + \sin(5) - \left(-\frac{1}{2(1)^2} + \sin(1) \right)$$

$$= -\frac{1}{50} + \frac{1}{2} + \sin(5) - \sin(1)$$

$$= \frac{-1 + 25}{50} + \sin(5) - \sin(1)$$

$$= \frac{24}{50} + \sin(5) - \sin(1)$$

$$\frac{12}{25} + \sin(5) - \sin(1) \approx -1.3209$$

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