

1) Evaluate $\int_0^x (4x + 2y) dy = \underline{\hspace{2cm}}$

2) Evaluate $\int_2^{2y} \frac{3y}{x} dx = \int_2^{2y} 3y \cdot \frac{1}{x} dx = \underline{\hspace{2cm}}$

3) Evaluate $\int_{e^y}^{4y} \frac{5y \ln x}{x} dx = \int_{e^y}^{4y} 5y \cdot \frac{\ln x}{x} dx = \underline{\hspace{2cm}}$

4) Evaluate $\int_0^1 \int_0^4 (2x + y) dy dx = \underline{\hspace{2cm}}$

5) Evaluate: $\int_1^2 \int_0^3 (2x^2 - 2y^2) dx dy = \underline{\hspace{2cm}}$

6) Evaluate $\int_0^{\pi/4} \int_0^{\sin x} (4 + \cos x) dy dx = \underline{\hspace{2cm}}$

7) Evaluate $\int_1^5 \int_0^{2y} (4 + x^2 + 2y^2) dx dy = \underline{\hspace{2cm}}$

8) Evaluate $\int_0^3 \int_0^{\sqrt{9-y^2}} \left(\frac{5}{\sqrt{9-y^2}} \right) dx dy = \underline{\hspace{2cm}}$

9) Evaluate $\int_0^{\pi/2} \int_0^{\cos \theta} (3\theta r) dr d\theta = \underline{\hspace{2cm}}$

10) Evaluate $\int_1^\infty \int_0^{2/x} (3y) dy dx = \underline{\hspace{2cm}}$

11) Evaluate $\int_1^\infty \int_1^\infty \left(\frac{4}{xy} \right) dx dy = \underline{\hspace{2cm}}$