

Lessons 11

July 1, 2016

1. $\int_0^1 \int_2^3 2x - 6x^2y \, dy \, dx$
Answer: -4

2. $\int_0^\pi \int_0^2 r^2 \cos \theta \, dr \, d\theta$
Answer: 0

3. $\int_0^1 \int_0^1 \sqrt{s+t} \, ds \, dt$
Answer: $\frac{8}{15}(2\sqrt{2} - 1)$

4. $\int_1^4 \int_1^2 \frac{\ln x}{xy} \, dx \, dy$
Answer: $(\ln 2)^3$

5. $\int_0^1 \int_2^6 \frac{xy^2}{x^2+1} \, dy \, dx$
Answer: $9 \ln 2$

6. $\int \int_R 4 - 2y \, dA$, where $R = [2, 8] \times [0, 2]$
Answer: 24