

## Math 32B Week 2 Worksheet

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1. (a) State Fubini's Theorem.

(b) Verify Fubini's Theorem for  $\iint_R e^{3x-y} dA$  where  $R = \{(x, y) : 1 \leq x \leq 2, 2 \leq y \leq 4\}$ .

2. Sketch the region of integration and change the order of integration:

$$\int_0^4 \int_0^{\sqrt{x}} f(x, y) dy dx$$

3. Evaluate the integral by reversing the order of integration:

$$\int_0^1 \int_{\arcsin y}^{\pi/2} \cos x \sqrt{1 + \cos^2 x} dx dy$$