

## ORDER OF INTEGRATION

Evaluate the following integrals by reversing the order of integration.

$$1. \int_0^1 \int_{\sqrt{y}}^1 \sqrt{x^3+1} \, dx dy$$

$$2. \int_0^1 \int_{2y}^2 \sqrt{x^2+1} \, dx dy$$

$$3. \int_0^2 \int_{\frac{y}{2}}^1 \sin(x^2) \, dx dy$$

$$4. \int_0^2 \int_{\frac{y}{2}}^1 e^{x^2} \, dx dy$$