

Quiz on homework 13

May 23, 2019

Show all details.

1. Change

$$\int_{\sqrt{2}}^2 \int_{\sqrt{4-y^2}}^y dx dy$$

into an equivalent polar integral and evaluate the polar integral.

2. Evaluate
- $I = \int_0^\infty e^{-x^2} dx$
- .

$$\text{Hint: } I^2 = \int_0^\infty e^{-x^2} dx \int_0^\infty e^{-y^2} dy.$$

3. Rewrite
- $\int_{-1}^1 \int_{x^2}^1 \int_0^{1-y} dz dy dx$
- in the order
- $dy dz dx$
- and
- $dx dy dz$
- , respectively. Need not evaluate them.

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