



Bilkent University

Quiz # 9  
Math 102-Section 11  
22 May 2023, Monday, Moodle Quiz  
Instructor: Ali Sinan Sertöz  
**Solution Key**

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**Q-1)**

$$\begin{aligned}\int_1^2 \int_0^{\sqrt{2x-x^2}} dy dx &= \int_0^{\pi/4} \int_{\sec \theta}^{2 \cos \theta} r dr d\theta \\ &= \int_1^{\sqrt{2}} \int_0^{\arccos(1/r)} r d\theta dr + \int_{\sqrt{2}}^2 \int_0^{\arccos(r/2)} r d\theta dr\end{aligned}$$

Grading: 10 points.