



Bilkent University

Quiz # 10
Math 102-Section 09
26 May 2023, Friday, Moodle Quiz
Instructor: Ali Sinan Sertöz
Solution Key

Q-1)

$$\int_0^{3/2} \int_0^{\sqrt{2y-y^2}} \int_1^{\sqrt{4-x^2-y^2}} dz dx dy + \int_{3/2}^{\sqrt{3}} \int_0^{\sqrt{3-y^2}} \int_1^{\sqrt{4-x^2-y^2}} dz dx dy$$
$$= \int_0^{\pi/3} \int_0^{2\sin\theta} \int_1^{\sqrt{4-r^2}} r dz dr d\theta + \int_{\pi/3}^{\pi/2} \int_0^{\sqrt{3}} \int_1^{\sqrt{4-r^2}} r dz dr d\theta.$$

Grading: 10 points.