RJEŠENJA DRUGOG MEĐUISPITA IZ MAT 3E

02.12.2010.

1) KNJIGA 3, STR 12.

2) $$\int_0^{\frac{\pi}{4}} d\varphi \int_0^{\sin\varphi} \frac{r\,dr}{\sqrt{1-r^2}} + \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} d\varphi \int_0^{\cos\varphi} \frac{r\,dr}{\sqrt{1-r^2}} = -\sqrt{2} + \frac{\pi}{2}$$

3) $$\int_0^1 dy \int_{y^{\frac{3}{2}}}^2 f(x,y)\,dx + \int_1^2 dy \int_{2-\sqrt{2y-y^2}}^2 f(x,y)\,dx$$

4) $$\int_0^1 e^x dx \int_0^{1-x} e^y dy \int_{2x+2y}^2 e^z dz = -\frac{2}{9}e^3 + e^2 - \frac{1}{9}$$

5) $J = t^2 + r^2$, $V = \iiint_V dx\,dy\,dz = \iiint_{V'} (t^2+r^2)\,dr\,dt\,dz$

6) $$\int_0^{\frac{\pi}{2}} d\varphi \int_0^{\frac{\pi}{4}} d\theta \int_0^{\sqrt{2}} r^2\cos^2\theta \cdot r^2 \sin\theta\,dr = \frac{\pi}{15}(2\sqrt{2}-1)$$

7) a) KNJIGA 3, STR 12. i 13. (1 BOD)

b) $\vec{N} = \vec{y} - \vec{k}$ (2 BODA)