Rješenja 5. domaće zadaće iz Matematike 3E

1. A. $\int_0^1 dy \int_{-y}^{y} dx \int_0^{1-y} f(x,y,z)\,dx\,dy\,dz.$

B. $\int_0^1 dx \int_0^{2x} dy \int_0^{-2x+2} f(x,y,z)dz + \int_0^1 dx \int_{2x}^{2} dy \int_0^{-y+2} f(x,y,z)dz.$

2. A $\int_0^1 dx \int_0^{3-3x} dy \int_{\frac{6x+2y}{3}}^{2} f(x,y,z)\,dz.$

B. $\int_0^2 dx \int_{\frac{2x}{3}}^{\frac{3x}{2}} dy \int_0^{10-2x-2y} f(x,y,z)dz + \int_2^3 dx \int_{\frac{2x}{3}}^{5-x} dy \int_0^{10-2x-2y} f(x,y,z)dz.$

3. $-\frac{5}{16} + \frac{1}{2}\ln 2.$

4.A. $\frac{2048}{105}$ **B.** $\frac{256}{15}$.

5. $\frac{1016}{35}$.

6. 18π

7. $\frac{\pi}{8}$.

8. $\frac{63\pi}{4}$.

9. $\frac{19\pi}{15}$.

10. $\frac{8}{5}(\sqrt{2}-1)\pi$.

11. $\frac{32\pi}{3}$.

12. $\frac{3\pi}{4}$.

13. $\frac{8}{15}(-41+18\sqrt{6})\pi$.

14. $\frac{1024\pi}{15}$.

15. $\frac{567\pi}{2}$.

16. U tekstu zadatka umjesto $x=0$ treba pisati $y=0$. Tada je $T(0,\frac{2}{5})$.

17. $-(\pi-4)\pi$.

18.$T(0, 0, \frac{1}{3})$.

19. Ovo nije stožac nego paraboloid. $I_z = \dfrac{\pi}{6}$.

20. Ovo nije stožac nego paraboloid. $I_x = \dfrac{\pi}{3}$.