Analiza matematyczna 3. Lista 13,5 (autotrening po k4 i przed k5)

1. Połącz w 'rozsądne' trójki: rysunek **x)** <~> całka **[y]** <~> całka **(Z)**
Wypisz wszystkie możliwe.

[1] $\int_0^6 \int_0^{\sqrt{6y-y^2}} f(x,y)\,dx\,dy$

[2] $\iint\limits_{\substack{x^2+y^2\le 6y \\ x\ge 0}} f(x,y)\,d\omega$

[3] $\iiint\limits_{\substack{x^2+y^2+z^2\le 9 \\ x+|y|\le 0}} f(x,y,z)\,d\omega$

[4] $\int_0^3 \int_0^x f(x,y)\,dy\,dx$

[5] $\int_0^5 \int_{5-\sqrt{25-y^2}}^{y} f(x,y)\,dx\,dy$

[6] $\int_{-3}^3 \iint\limits_{\substack{x^2+y^2\le 9-z^2 \\ x+|y|\le 0}} f(x,y,z)\,d\omega\,dz$

[7] $\int_0^5 \int_x^{\sqrt{10x-x^2}} f(x,y)\,dy\,dx$

[8] $\iint\limits_{\substack{x^2+y^2\le 4 \\ |x|\le y}} f(x,y)\,d\omega$

(A) $\int_{-3}^3 \int_{3\pi/4}^{5\pi/4} \int_0^{\sqrt{9-h^2}} f(r\cos\varphi, r\sin\varphi, h)\cdot r\,dr\,d\varphi\,dh$

(B) $\int_0^{5\sqrt{2}} \int_{\pi/4}^{\arccos\frac{r}{10}} f(r\cos\varphi, r\sin\varphi)\cdot r\,d\varphi\,dr$

(C) $\int_0^{\pi/4} \int_0^{3/\cos\varphi} f(r\cos\varphi, r\sin\varphi)\cdot r\,dr\,d\varphi$

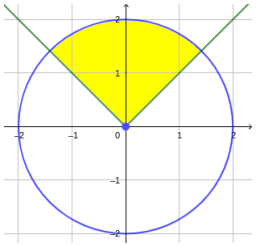
(D) $\int_{3\pi/4}^{5\pi/4} \int_0^3 \int_{-\sqrt{9-r^2}}^{\sqrt{9-r^2}} f(r\cos\varphi, r\sin\varphi, h)\cdot r\,dh\,dr\,d\varphi$

(E) $\int_0^{\pi/2} \int_0^{6\sin\varphi} f(r\cos\varphi, r\sin\varphi)\cdot r\,dr\,d\varphi$

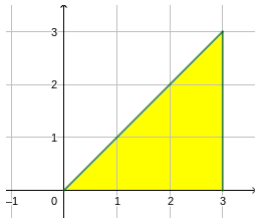
(F) $\int_{\pi/4}^{3\pi/4} \int_0^2 f(r\cos\varphi, r\sin\varphi)\cdot r\,dr\,d\varphi$

(G) $\int_{\pi/4}^{\pi/2} \int_0^{10\cos\varphi} f(r\cos\varphi, r\sin\varphi)\cdot r\,dr\,d\varphi$

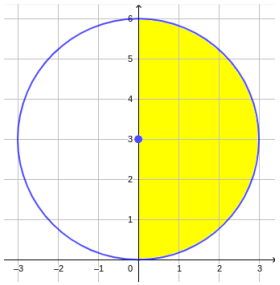
a)



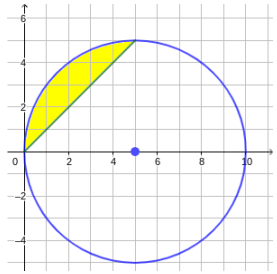
b)



c)



d)



e)