

① Find the area of the hexagon ABCDEF } H/W
where $A=(0,0)$, $B=(3,-1)$, $C=(5,2)$,
 $D=(1,1)$, $E=(3,6)$, $F=(-2,1)$. } 49

② Find the center of mass of (the interior of) the hexagon from ①.

③ Find $\iint_E xy \, dx \, dy$ where E is the region enclosed by curve I but outside of curves J and K parametrized below and plotted on the next page. t goes from 0 to 2π for each of I, J, K :

$$I: \vec{r}(t) = \langle 3 + (6 + \sin(7t)) \cos(t), (4 + 2 \sin(7t)) \sin(t) \rangle$$

$$J: \vec{r}(t) = \langle 1 + 2 \cos(t), -\sin(t) \rangle$$

$$K: \vec{r}(t) = \langle 5 + \cos(t), 1 - 2 \sin(t) \rangle$$

