A) What is the line integral of

$$\vec{F} = \langle \frac{1}{x+y+10} + \frac{y}{xy+5}, \frac{1}{x+y+10} + \frac{x}{xy+5} \rangle$$

along the lower half of the ellipse $x^2/4 + y^2/25 = 1$ from $(-2, 0)$ to $(2, 0)$?

B) What is the line integral of

$$\vec{F} = \langle \cos^{2006}(x+y), \cos^{2006}(x+y) + x \rangle$$

along the unit circle parametrized couter clockwise.

C) Find the line integral of

$$\vec{F} = \langle \sin(x), y^7 + 5 \rangle$$

along the path $\vec{r}(t) = (t, \sin(2t))$ from $t = 0$ to $t = \pi$.