(1) Evaluate $\oint_C \mathbf{F} \cdot d\mathbf{r}$, where $\mathbf{F} = < -2y, 3x, 10z >$ and $C$ is the circle $x^2 + y^2 = 25, z = 3$.

(2) Determine the flux of $\mathbf{F} = < 2z, x, y^2 >$ out of the closed surface bounded by the paraboloid $z = 4 - x^2 - y^2$ and $z = 0$. 