1. Let $D$ be the unit disk centered about the origin in $xy$-space. Let $R$ be the right half of $D$. Identify the sign of $\int_R 5y \, dA$. Provide brief justification for your choice.

   ○ positive     ○ zero     ○ negative

2. Reverse the order of integration for $\int_0^3 \int_{x^2}^9 x \sin(y^2) \, dy \, dx$. Do **not** evaluate the integral.