P1. Evaluate
\[ \int_0^3 \int_{\frac{1}{2}}^1 \frac{1}{y^2 + 3} dy \, dx \]

P2. The manufacturing cost of a conical canvas tent can be approximated by its surface area,
\[ S(r, h) = \pi r \left( r + \sqrt{r^2 + h^2} \right) \]
where \( r \) is the radius of the base of the tent and \( h \) is its height. Approximate the cost to manufacture a 4.083 foot tall tent that has a base radius of 2.833.