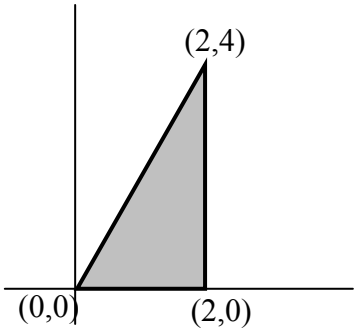
SI Session: Nov. 3, 2008
Mondays: 1:30 PM – 3:00 PM & 4:50 PM – 6:20 PM
Wednesdays: 1:30 PM – 3:00 PM & 4:50 PM – 6:20 PM
Room 1239 SNAD(Wed. early rm. 1121)

Prof. Stockton : Calculus III
Fall 2008
SI Leader : Neil Jody

[1] Find the absolute maximum and minimum values of the function $f(x,y) = x^2y - x^2 - y + 1$ on the triangular region shown below:

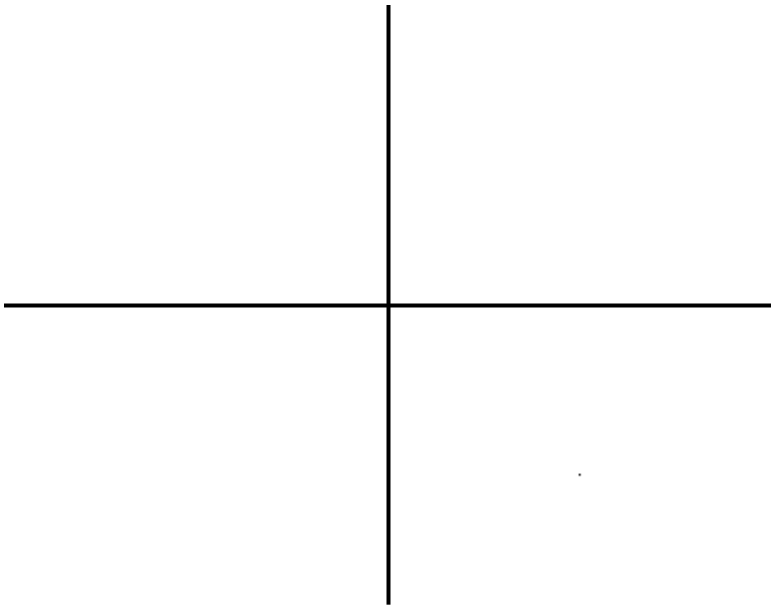


[2] Evaluate the iterated integrals.

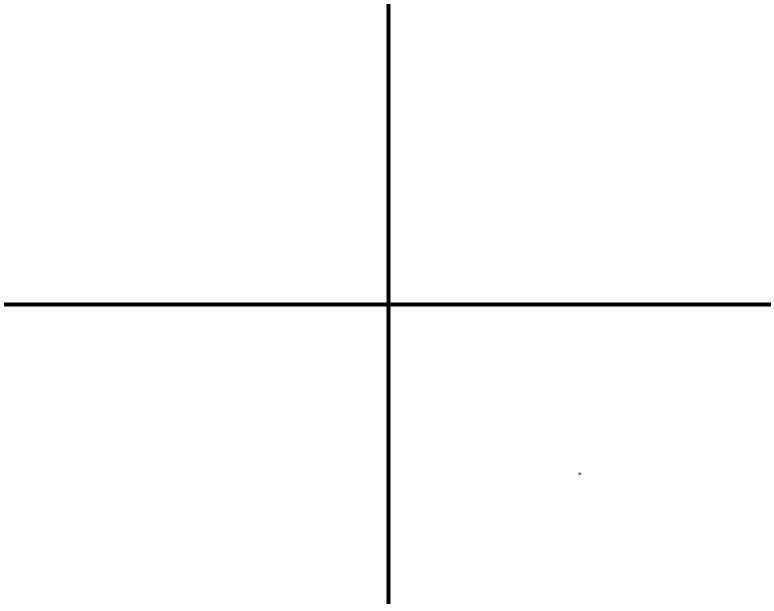
(a) $\int_0^1 \int_0^{\pi} e^x \sin y \, dydx$

(b) $\int_0^{\pi/2} \int_1^e \frac{\sin y}{x} dxdy$

[3] Express $\int_1^4 \int_1^{\sqrt{x}} xe^y dydx$ as an iterated integral with the reverse order of integration.



[4] Reverse the order of integration for $\int_0^{\ln 2} \int_{e^y}^{2} f(x,y)dxdy$.



[4] Set up a double integral and evaluate.

(a) $\iint_D \left(4 - x^2\right) dA$

D : region bounded by $y = 0$, $x = 0$, and $y = 4 - x^2$

(b) $\iint_D \frac{y}{1+x^2}$

D : region bounded by $y = 0$, $y = \sqrt{x}$ and $x = 4$

(c) $\int_0^1 \int_{y/2}^{1/2} e^{-x^2}\,dxdy$

(d) $\int_0^{\ln 10} \int_{e^x}^{10} \frac{1}{\ln y}\, dydx$