Final Practice Answers

1)(20 points) a) Quarter circle in the second quadrant 
   
   b) 
   \[ \int_0^1 \int_{-\sqrt{1-y^2}}^0 x \ dx \ dy = -\frac{2}{3} \]

2)(20 points) a) 0; b) 1

3)(30 points) 
   a) Converges Ratio Test R = 0 
   b) Diverges Divergence Test 
   c) Diverges Lim Comp with \( \sum \frac{1}{k} \)

4)(20 points) Did in class today Tuesday

5)(10 points) 
   \[ \frac{x^3}{3} - \frac{x^5}{10} + \frac{x^7}{21} \cdots + C = \sum_{k=1}^{\infty} (-1)^{k+1} \frac{x^{2k+1}}{k(2k+1)} + C \]