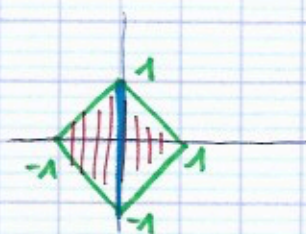


$$(8) \iint e^{x+y} dx dy$$



$$I = \int_{x=-1}^0 \int_{y=-x-1}^{x+1} e^x e^y dy dx + \int_{x=0}^1 \int_{y=-1+x}^{1-x} e^x e^y dy dx$$

$$= \int_{x=-1}^0 e^x x (e^{x+1} - e^{-x-1}) dx + \int_{x=0}^1 e^x x (e^{1-x} - e^{-1+x}) dx$$

$$= \int_{x=-1}^0 (e^{2x+1} - e^{-1}) dx + \int_{x=0}^1 (e^1 - e^{2x-1}) dx$$

$$= \left[\frac{1}{2} e^{2x+1} \right]_{-1}^0 - e^{-1} + e^1 - \left[\frac{1}{2} e^{2x-1} \right]_0^1$$

$$= \frac{e}{2} - \frac{e^{-1}}{2} - e^{-1} + e^1 - \frac{e}{2} + \frac{e^{-1}}{2} = \left(e - \frac{1}{e} \right) \approx 2.350$$