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7. Find $\int_{-1}^{0}\int_{-2}^{2x} e^{y^2}\,dy\,dx.$ $\implies$ $\int_{-2}^{0}\int_{\frac{y}{2}}^{0} e^{y^2}\,dx\,dy = \int_{-2}^{0} -\frac{y}{2}e^{y^2}\,dy$

$t = 2^x$ y $(-1,-2)$ -2

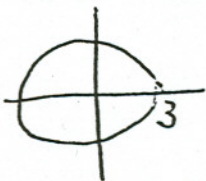$x = \frac{y}{2} \rightarrow$ $x=0$ $(-1,-2)$
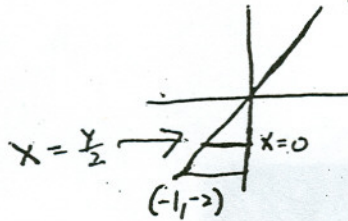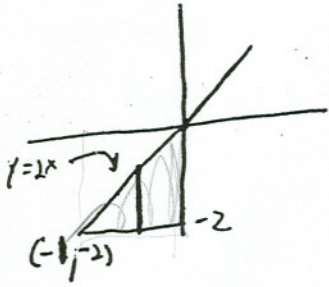
$= -\frac{1}{4}e^{y^2}\,\Big]_{-2}^{0}$

$= \boxed{-\frac{1}{4}\left(1-e^{4}\right)}$

8. Find the volume of the solid whose base is $z = 0$ and whose top is $z = 9 - x^2 - y^2$.

$\int_{0}^{2\pi}\int_{0}^{3} (9-r^2)\,r\,dr\,d\theta = 2\pi\int_{0}^{3} 9r - r^3\,dr = 2\pi\,\frac{9r^2}{2} - \frac{r^4}{4}\,\Big]_{0}^{3}$

$= \boxed{2\pi\left(\frac{81}{2} - \frac{81}{4}\right)}$

. base