1) Rewrite by pulling $-2y^2$ out because these are constant with respect to x: $-2y^2 \int_{-2}^{2} x \, dx$

2) Do the power rule on x: $-2y^2 \int_{-2}^{2} x \, dx = -2y^2 \left(\frac{1}{2}\left(2^2-(-2)^2\right) \right)$

3) Simplify to get $-\frac{2}{2}y^2(4-4)=0$

4) This is not surprising. The integral of x on a symmetric interval about 0 is 0.