$$\int_{1}^{-2}(x^2-2x)dx = \left| \begin{array}{c} f(x)=x^2-2x \\ \int f(x)dx = \dfrac{x^3}{3}-x^2+C \\ F(x)=\frac{x^3}{3}-x^2 \end{array} \right| = \left[\frac{x^3}{3}-x^2\right]_{-1}^{2} =$$

$$= \left(\frac{2^3}{3}-2^2\right) - \left(\frac{(-1)^3}{3}-(-1)^2\right) = \left(\frac{8}{3}-4\right) = -\frac{4}{3}+\frac{4}{3} = 0$$