L727

$x \in [-1,2]$

Pole sil F: $F(x,y,z) = (x,y,z)$ $\sigma(x) = (x, x^2, 0)$

$\sigma^{-1}(x) = (1, 2x, 0)$

$$W = \int_\sigma F \circ ds = \int_{-1}^{2} F(x,\sigma(x)) \circ \sigma'(x)\, dx = \int_{-1}^{2} (x, x^2, 0) \circ (1, 2x, 0)\, dx =$$

$$= \int_{-1}^{2} \underset{x+2x^3}{(x,0,x^2)}\, dx = \frac{x^4}{2} + \frac{x^2}{2}\Big|_{-1}^{2} = \frac{1}{2}\left(x^4 + x^2\right)\Big|_{-1}^{2} = \frac{1}{2}(16+4) - \frac{1}{2}(1+1) = 9$$