$$dA = \frac{\partial A}{\partial x}\,dx + \frac{\partial A}{\partial y}\,dy = y\,dx + x\,dy \text{ and } |\Delta x| \leq 0.1,\ |\Delta y| \leq 0.1. \text{ We use}$$

$dx = 0.1$, $dy = 0.1$ with $x = 21$, $y = 50$;

then the maximum error in the area is about

$dA = 21(0.1) + 50(0.1) = 7.1$  cm$^2$.