110. One method is to simply compute the change in length in each edge ($x_0 = 0.200$ m and $y_0 = 0.300$ m) from Eq. 19-9 ($\Delta x = 3.6 \times 10^{-5}$ m and $\Delta y = 5.4 \times 10^{-5}$ m) and then compute the area change:

$$A - A_0 = (x_0 + \Delta x)(y_0 + \Delta y) - x_0 y_0 = 2.16 \times 10^{-5} \text{ m}^2 .$$

Another (though related) method uses $\Delta A = 2\alpha A_0 \Delta T$ (valid for $\Delta A/A \ll 1$) which can be derived by taking the differential of $A = xy$ and replacing d's with Δ's.