Problem 1 (M/E 1-1):

a) $1^{'L} = 1852 = \left(\frac{1}{60}\right)^{oL} = 185200 \, cm$

$\Rightarrow 1 \, cm = 8.999 \times 10^{-8}$

$\Rightarrow$ | **8** sig figs after decimal | for 1 centimeter represented in degrees latitude

b) $(60)^{''L} = (6 \times 10^{1})^{''L} = 1.852 \times 10^{5} \, cm$

$\Rightarrow \left(\frac{6}{1.852} \times 10^{-4}\right)^{''L} = 1 \, cm = 3.240 \times 10^{-4}$

$\Rightarrow$ | 4 sig figs after decimal | for 1 cm represented in arc seconds
of latitude