

56. Since the fields involved are uniform, the precise location of  $P$  is not relevant; what is important is it is above the three sheets, with the positively charged sheets contributing upward fields and the negatively charged sheet contributing a downward field, which conveniently conforms to usual conventions (of upward as positive and downward as negative). The net field is directed upward, and (from Eq. 24-13) its magnitude is

$$\left| \vec{E} \right| = \frac{\sigma_1}{2\varepsilon_0} + \frac{\sigma_2}{2\varepsilon_0} + \frac{\sigma_3}{2\varepsilon_0} = \frac{1.0 \times 10^{-6}}{2 \times 8.85 \times 10^{-12}} = 5.6 \times 10^4 \text{ N/C} .$$