

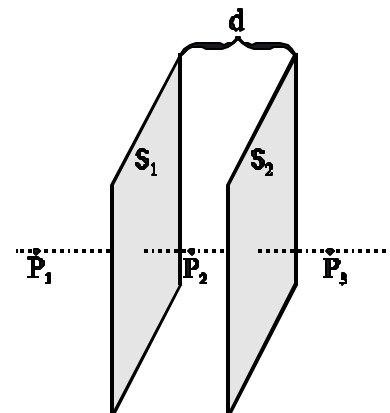
NAME _____
PERIOD _____

PHYSICS QUIZ #37D
ELECTRIC FIELDS - GAUSS' LAW

For the following problem showing ALL work is critical. I will be evaluating your answer primarily on the process that you use to reach the answer!

Two parallel, conducting planes, each of which has a width of 1.25 m and a height of 1.55 m, contain charge and are separated by a distance of $d = 4.0$ cm. The plane on the left contains a charge $q_1 = 42.0 \mu\text{C}$ while the plane on the right contains a charge of $q_2 = -84.0 \mu\text{C}$.

1. What are the charge densities, σ_1 and σ_2 , on each of these two planes? [3 pts + 3 pts]



2. What will be the electric fields, E_1 , E_2 & E_3 , at each of the points P_1 , P_2 & P_3 ? [3 pts + 3 pts + 3pts]