

Pg. 566, problem 2

Pg. 582, problem 20

Pg. 629, problems 60 and 69

Pg. 630, problem 75

A point  $P$  is located at the origin of a two-dimensional plane. It is surrounded by a point charge with a charge of  $-200.0 \text{ pC}$  located  $25.0 \text{ cm}$  to the left on the  $x$ -axis, a point charge with a charge of  $-64.0 \text{ pC}$  located  $10.0 \text{ cm}$  to the right on the  $x$ -axis, and a point charge with a charge of  $+45.0 \text{ nC}$  located  $90.0 \text{ cm}$  below on the  $y$ -axis. Determine a) the magnitude, and b) the direction of the net electric field measured at point  $P$ .