

34. If the original capacitance is given by  $C = \varepsilon_0 A/d$ , then the new capacitance is  $C' = \varepsilon_0 \kappa A/2d$ . Thus  $C'/C = \kappa/2$  or  $\kappa = 2C'/C = 2(2.6 \text{ pF}/1.3 \text{ pF}) = 4.0$ .