Capacitor $C=\frac{Kϵ\_{0}A}{d}$ $ε\_{0}=8.85×10^{-12}\frac{C^{2}}{N.m^{2}}$ Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
Capacitors in series:  Capacitors in parallel: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_P1. Figure [25-48](http://edugen.wileyplus.com/edugen/courses/crs4957/halliday9118/halliday9088c25/halliday9118/halliday9088c25/halliday9088c25xlinks.xform?id=halliday9088c25-fig-0048) shows a parallel-plate capacitor with a plate area *A* = 8.0 cm2 and plate separation *d* = 5.0 mm. The top half of the gap is filled with material of dielectric constant *κ*1 = 10.0; the bottom half is filled with material of dielectric constant *κ*2 = 12.0. What is the capacitance?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |

|  |
| --- |
| http://edugen.wileyplus.com/edugen/courses/crs4957/common/art/pixel.gif |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| http://edugen.wileyplus.com/edugen/courses/crs4957/common/art/pixel.gif |

 |

 |

 |



P2. Figure [25-49](http://edugen.wileyplus.com/edugen/courses/crs4957/halliday9118/halliday9088c25/halliday9118/halliday9088c25/halliday9088c25xlinks.xform?id=halliday9088c25-fig-0049) shows a parallel-plate capacitor of plate area *A* = 10 cm2 and plate separation 2*d* = 8.0 mm. The left half of the gap is filled with material of dielectric constant *κ*1 = 21.0; the top of the right half is filled with material of dielectric constant *κ*2 = 42.0; the bottom of the right half is filled with material of dielectric constant *κ*3 = 58.0. What is the capacitance?

