Suppose you had a parallel plate capacitor with capacitance $C$, and you insert a thin flat conductor of the same area halfway between the plates. What is the new capacitance after you do this? This problem is similar to, but far easier than, homework Problem 24.66.

(a) $C$ (that is, the same as before.)
(b) $C/2$
(c) $2C$
(d) $C/\sqrt{2}$
(e) $4C$
(f) $C/4$
(g) $(C + \frac{1}{C})/2$
(h) $C/2\epsilon_0$
(i) $C^2/2\epsilon_0$
(j) Not enough information: Need to know the area.
(k) Not enough information: Need to know the initial separation.
(l) Not enough information: Need to know the initial area and separation.
(m) None of the above
(n) All the above

Answer: ____________________________________________