

## Capacitance for carpenters

a.  $C = \frac{q}{\Delta V} = \frac{70 \text{ pC}}{20 \text{ V}} = 3.5 \text{ pF}.$

b. No change in capacitance.

c.  $\Delta V = \frac{q}{C} = \frac{200 \text{ pC}}{3.5 \text{ pF}} = 57 \text{ V}.$

*Grading:* 1 point for equation in part (a)

1 point for number in part (a)

1 point for two significant figures in part (a)

1 point for units in part (a)

2 points for part (b)

1 point for equation in part (c)

1 point for number in part (c)

1 point for two significant figures in part (c)

1 point for units in part (c)