

## Question #12

Key: C

The sample mean for  $X$  is 720 and for  $Y$  is 670. The mean of all 8 observations is 695.

$$\hat{v} = \frac{(730 - 720)^2 + (800 - 720)^2 + (650 - 720)^2 + (700 - 720)^2 + (655 - 670)^2 + (650 - 670)^2 + (625 - 670)^2 + (750 - 670)^2}{2(4 - 1)} = 3475$$

$$\hat{a} = \frac{(720 - 695)^2 + (670 - 695)^2}{2 - 1} - \frac{3475}{4} = 381.25$$

$$\hat{k} = 3475 / 381.25 = 9.1148$$

$$\hat{Z} = \frac{4}{4 + 9.1148} = .305$$

$$P_c = .305(670) + .695(695) = 687.4.$$