$$r_{xx'} = \frac{\sum X_1 X_2 - \frac{\left(\sum X_1\right)\left(\sum X_2\right)}{n}}{\sqrt{\sum X_1^2 - \frac{\left(\sum X_1\right)^2}{n}}\sqrt{\sum X_2^2 - \frac{\left(\sum X_2\right)^2}{n}}} = \frac{3502 - \frac{(159)(175)}{8}}{\sqrt{3371 - \frac{(159)^2}{8}}\sqrt{4813 - \frac{(175)^2}{8}}} = \frac{3502 - \frac{27825}{8}}{\sqrt{3371 - \frac{(159)^2}{8}}\sqrt{4813 - \frac{(175)^2}{8}}} =$$

$$\frac{3502 - 3478.125}{\sqrt{3371 - \frac{(159)^2}{8}}\sqrt{4813 - \frac{(175)^2}{8}}} = \frac{3502 - 3478.125}{\sqrt{3371 - \frac{(159)^2}{8}}\sqrt{4813 - \frac{(175)^2}{8}}} = \frac{23.875}{\sqrt{3371 - \frac{(159)^2}{8}}\sqrt{4813 - \frac{(175)^2}{8}}} =$$

$$\frac{23.875}{\sqrt{3371 - \frac{25281}{8}}\sqrt{4813 - \frac{30625}{8}}} = \frac{23.875}{\sqrt{3371 - 3160.125}\sqrt{4813 - 3828.125}} = \frac{23.875}{\sqrt{210.875}\sqrt{984.875}} =$$

$$\frac{23.875}{(14.5215)(31.3827)} = \frac{23.875}{455.7239} = .0524$$

Using the Definitional Formula (there are fewer calculations at this point, but there are many more procedures required to get to this point)

$$r_{xx'} = \frac{\sum \left(X_1 - \overline{X}_1\right)\left(X_2 - \overline{X}_2\right)}{\sqrt{\sum \left(X_1 - \overline{X}_2\right)^2}\sqrt{\sum \left(X_2 - \overline{X}_2\right)^2}} = \frac{23.875}{\sqrt{210.875}\sqrt{984.875}} = \frac{23.875}{(14.5215)(31.3827)} = \frac{23.875}{455.7239}$$

$$r_{xx'} = .0524$$