Question

Which of the following assumptions does collinearity violate?

- *a.* independent errors
- *b.* constant variance
- *c.* normally distributed errors
- *d.* none of the above

Check My Answer

Correct.
Collinearity causes instability in the model by inflating the variance of the parameter estimates, which raises the *p*-values. However, it doens't violate any assumptions.

Question

If there is no correlation among the predictor variables, can there still be collinearity in the model?

- *a.* Yes
- *b.* No

Check My Answer

Correct.
Collinearity occurs when there is correlation present among predictor variables in the model. If the predictor variables are not correlated, then there's no collinearity present in the model.

Question

Given the properties of the standard normal distribution, between which two values would approximately 95% of the studentized residuals fall?

- *a.* -3 and 3
- *b.* -2 and 2
- *c.* -1 and 1
- *d.* 0 and 1
- *e.* 0 and 2
- *f.* 0 and 3

Check My Answer

Correct.
If we think of these STUDENT residuals as following the standard normal distribution and apply the 68/95/99% rule, we would expect 5% of them to fall beyond the -2, +2 limits, by chance.