MITx: 15.071x The Analytics Edge

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## QUICK QUESTION 6 (1 point possible)

Which of the following are NOT valid values for an out-of-sample (test set) R<sup>2</sup>?

- -7.0
- -0.3
- 0.0
- 0.6
- **1.0**
- 2.4

## **EXPLANATION**

The formula for R2 is

 $R^2 = 1 - SSE/SST$ ,

where SST is caluclated using the average value of the dependent variable on the training set.

Since SSE and SST are the sums of squared terms, we know that both will be positive. Thus SSE/SST must be greater than or equal to zero. This means it is not possible to have an out-of-sample R<sup>2</sup> value of 2.4.

However, all other values are valid (even the negative ones!), since SSE can be more or less than SST, due to the fact that this is an out-of-sample R<sup>2</sup>, not a model R<sup>2</sup>.

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