

MITx: 14.310x Data Analysis for Social Scientists

Heli



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- Entrance Survey
- Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions
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# **Getting Familiar with Regression Output - Quiz**

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# **Question 1**

1/1 point (graded)

True or False:  $\mathbb{R}^2$  is the estimated standard deviation of an estimator.

a. ˈ	True

● b. False

# **Explanation**

False, the standard error is the estimated standard deviation of an estimator. Regression output will generally give you standard errors for your estimators. These values are a measure of the accuracy of predictions made with the corresponding estimators for the coefficients in the regression.

 $R^2$  on the other hand is a basic measure of goodness of fit. Recall the formula for  $R^2$  is: 1-SSR/SST

- Module 5: Moments of a Random Variable,
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   Intro to Regression
- Module 6: Special
   Distributions, the
   Sample Mean, the
   Central Limit Theorem,
   and Estimation
- Module 7: Assessing and Deriving Estimators -Confidence Intervals, and Hypothesis Testing
- Module 8: Causality,
   Analyzing Randomized
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   Nonparametric
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- Module 9: Single and Multivariate Linear Models

**The Linear Model** 

due Nov 28, 2016 05:00 IST

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Submit

You have used 1 of 1 attempt

✓ Correct (1/1 point)

# Question 2

1/1 point (graded)
Suppose you get the following R output:

#### Coefficients:

```
Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.030e+01 1.191e+00 -8.651 <2e-16 ***
GenderM -1.355e+01 1.587e+00 -8.536 <2e-16 ***
Year 5.144e-03 5.920e-04 8.689 <2e-16 ***
GenderM:Year 6.766e-03 7.891e-04 8.575 <2e-16 ***
```

Which of the following values corresponds to  $\hat{\beta_0}$ ?

a. -8.651

# <u>The Multivariate Linear</u> <u>Model</u>

due Nov 28, 2016 05:00 IST

Module 9: Homework

due Nov 21, 2016 05:00 IST

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- Module 10: Practical
   Issues in Running
   Regressions, and
   Omitted Variable Bias
- ▶ Exit Survey

- o b. 6.766e-03
- c. -1.030e+01 ✓
- d. 7.891e-04

# **Explanation**

The "Estimate" value for "(Intercept)" is the estimate of the y-intercept,  $\hat{eta}_0$ .

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You have used 1 of 2 attempts

✓ Correct (1/1 point)

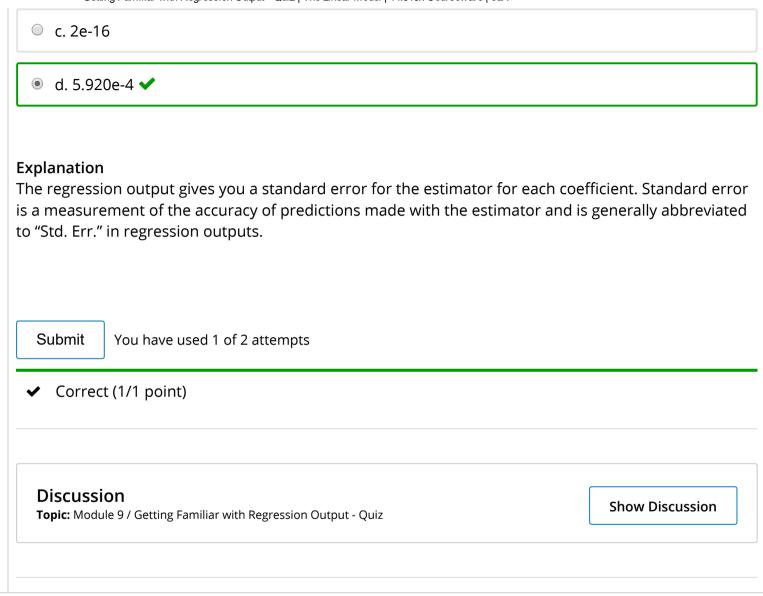
# **Question 3**

1/1 point (graded)

Which of the following values corresponds to the standard error for  $\hat{\beta}_1$ , where  $\beta_1$  is the estimate for coefficient on the Year random variable?

a. 1.191e+00

b. 8.689



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