

## Statistics Exam 2015-01-01

Exam ID 00002

**Name:** \_\_\_\_\_

**Student ID:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

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2. (a) ☐ (b) ☐ (c) ☐ (d) ☐ (e) ☐

3. (a) ☐ (b) ☐ (c) ☐ (d) ☐ (e) ☐

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5. (a) (a)  (b)  (c)

(b) 

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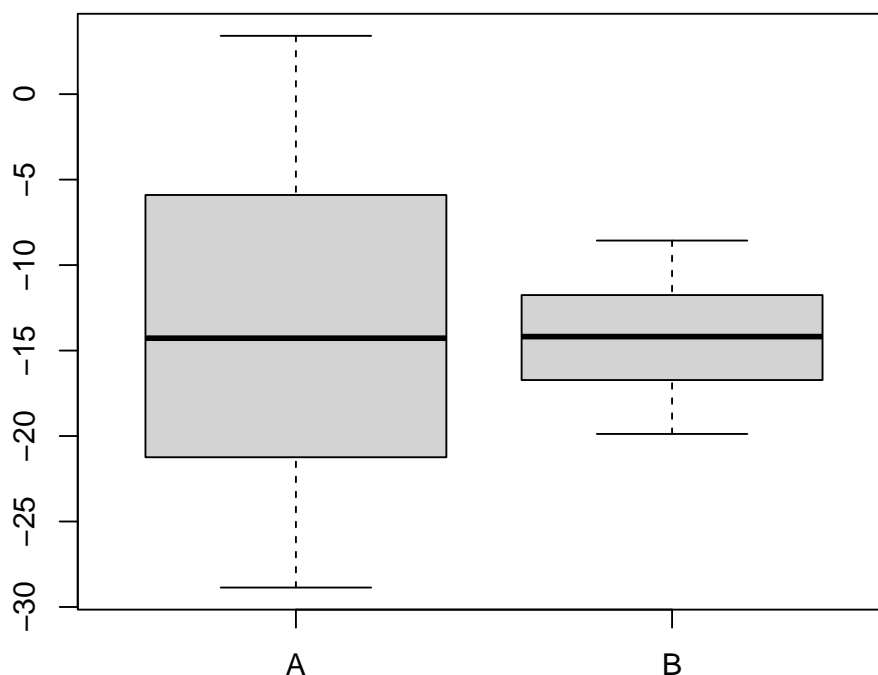
6. 

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1. What is the derivative of  $f(x) = x^9 e^{2.3x}$ , evaluated at  $x = 0.71$ ?
2. What is the seat of the federal authorities in Switzerland (i.e., the de facto capital)?
  - (a) Lausanne
  - (b) Bern
  - (c) Vaduz
  - (d) Geneva
  - (e) St. Gallen
3. In the following figure the distributions of a variable given by two samples (A and B) are represented by parallel boxplots. Which of the following statements are correct? (*Comment: The statements are either about correct or clearly wrong.*)



- (a) The location of both distributions is about the same.
  - (b) Both distributions contain no outliers.
  - (c) The spread in sample A is clearly bigger than in B.
  - (d) The skewness of both samples is similar.
  - (e) Distribution B is about symmetric.
4. What is the name of the R function for negative binomial regression?
5. Using the data provided in `regression.csv` estimate a linear regression of  $y$  on  $x$  and answer the following questions.
  - (a)  $x$  and  $y$  are not significantly correlated /  $y$  increases significantly with  $x$  /  $y$  decreases significantly with  $x$
  - (b) Estimated slope with respect to  $x$ :
6. On 2013-05-03 one Euro (€) was buying 1.3109 US Dollars (\$) and 0.8431 British Pounds (£). At Frankfurter Börse around noon adidas AG was the largest winner compared with the day before with a price of € 84.8492 per share. If you buy 46 shares, how much are they worth in £?