Term Test #1, ECO220Y1Y, June 5, 2015, SOLUTIONS

(1) [2pt] For the distribution of feeling thermometer ratings, which *best* describes the shape? **(B)**

(2) [2pts] In a *density* histogram (with the same bins), what would be the approximate height of the tallest bar? **(D)**

(3) [2pts] What percent of the 40,901 observations lie within two standard deviations of the mean? **(E)**

(4) [2pts] Which of these could be the box plot of the feeling thermometer ratings variable? **(A)**

(5) [2pts] If a survey participant's *standardized* feeling thermometer is -0.74, what rating did they give? **(E)**

(6) [2pts] Researchers have explored whether people will ... What is the s.d. of the *change* in ratings? **(C)**

(7) [2pts] How should you interpret the OLS coefficient 0.26? On average, in 2011/12, Americans who are ___. **(D)**

(8) [2pts] What is the covariance between `gaytherm` and `yr_born`? … **(E)**

(9) [2pts] Based on these data, which is a correct conclusion about how attitudes of younger generations differ from older generations? **(B)**

(10) [2pts] If you randomly selected 20 respondents out of the 40,901 and re-ran the regression, what should you expect about the R^2? **(C)**

(11) [2pts] What are the mean and standard deviation of `age_yrs`? **(E)**

(12) [2pts] What is the coefficient of correlation between `yr_born` and `age_yrs`? **(A)**

(13) [2pts] For a regression of `gaytherm` on `age_yrs`, which of these OLS results is closest to correct? **(A)**

(14) [2pts] 120 people are randomly divided into… Why is the s.d. of Group 2 larger than the s.d. of Group 1? **(A)**

(15) [2pts] If height is Normal with mean 169.8cm and s.d. 8.3cm, how tall do you need to be to be in the top 1%? **(B)**

(16) [2pts] If test scores are Normal with mean 65.7 and s.d. 11.2, what percent have a score between 60 and 70? **(C)**

(17) [2pts] "Can GNI per capita be used to measure human development instead of the HDI?" … Which course concept does this quote *specifically illustrate*? … **(C)**

(18) [2pts] Approximately, what is the Gross National Income (GNI) per capita of the Czech Republic (CZE)? **(B)**

(19) [2pts] How should you interpret the OLS coefficient 0.12? In 2012, on average, OECD member nations with GNI per capita that is ___ higher have an HDI that is approximately ___ higher. **(E)**

(20) [2pts] Turkey (TUR) and Luxembourg (LUX) stand out a bit in these data. If the regression were rerun without these two observations, what would happen to the R^2? **(A)**

(21) [2pt] Recall... What would happen to the OLS coefficient of 0.12 if Kuwait were included in the regression? **(B)**

(22) [2pts] The HDI is … which of these would stay exactly the same (i.e. same value either way)? **(A)**

(23) [2pts] For a black American, if the event of being born into a family in the first income quintile is BQ1 and the event of being in the first income quintile at age 40 is 40Q1, then which probability (approximately) equals 0.51? **(D)**

(24) [2pts] For a white American, the biggest number in Chart 3 is 32. What does 32 mean? **(D)**

(25) [2pts] Based on Chart 3, what can we conclude about comparing black America with white America? **(D)**

(26) [2pts] Why do the first two graphics in Chart 5 report medians and not means? Because the ___. **(B)**

(27) [2pts] The final graphic in Chart 5 shows that 25% of white children are being raised by a single parent whereas 67% of black children are. This could be restated as: compared to white children, the percent of black children currently being raised by a single parent in 2013 is ___. **(D)**

(28) [2pts] If you randomly selected four white children, what is the chance that two are being raised by a single parent? **(C)**

(29) [2pts] In 1960, if a husband has a high school degree (HS), what is the chance his wife has a high school degree (HS)? **(E)**

(30) [2pts] In 2005, if a wife has a college degree (C), what is the chance her husband has a college degree (C)? **(C)**

(31) [3pts] In 2005, if husbands and wives were randomly assigned to each other – in other words, if there is no assortative mating – what number would replace 0.053 (i.e. the cell C+, C+)? **(A)**

(32) [2pts] For a randomly selected Ontario teacher, variables measuring class size (number of students) and class performance (mean final grade) are recorded each year from 1995 through 2015. What kind of data are these? **(B)**

(33) [2pts] What value should appear in the cell marked "**?**"? **(C)**

(34) [2pts] What value should appear in the cell marked "**??**"? **(D)**

(35) [1pt] What is your FORM CODE? (It is given on Page 1 of these test papers.) **(A)**