MATH 1342

Homework 5 (Sections 4.3 – 4.4)

Instructions: Answer all questions through the EMCF tab of casa under the assignment named "Homework 5" before the deadline.

There is no "Submit" button. Your answers will be automatically submitted once the deadline arrives.

Assignments will be graded out of 20 points.

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1. Section 4.3; Problem 4

   A. True B. False

2. Section 4.3; Problem 8

   A. 88 B. 102 C. 106 D. 112 E. 598

3. Section 4.3; Problem 16 (a)

   A. 0.2877 B. 0.3969 C. 0.8883 D. 0.0344 E. 0.8599

4. Section 4.3; Problem 16 (b)

   A. 0.9352 B. 0.3969 C. 0.8883 D. 0.0344 E. 0.8599

5. Section 4.3; Problem 16 (c)

   A. 0.9352 B. 0.3969 C. 0.2877 D. 0.0344 E. 0.8599

6. Section 4.3; Problem 16 (d)

   A. 0.9352 B. 0.3969 C. 0.8883 D. 0.2877 E. 0.8599

7. Section 4.3; Problem 16 (e)

A. 0.2877 B. 0.9352 C. 0.8883 D. 0.0344 E. 0.8599

8. Section 4.3; Problem 16 (f)

A. 0.9352 B. 0.3969 C. 0.8883 D. 0.0344 E. 0.8599

9. Section 4.3; Problem 20 (a)

A. 0.2660 B. 0.7340 C. 0.0000029 D. 0.1370 E. 0.6887

10. Section 4.3; Problem 20 (b)

A. 0.2660 B. 0.7340 C. 0.0000029 D. 0.1370 E. 0.6887

11. Section 4.3; Problem 20 (c)

A. 0.2660 B. 0.7340 C. 0.0000029 D. 0.1370 E. 0.6887

12. Section 4.3; Problem 20 (d)

A. 231.26 B. 231.58 C. 151.77 D. 268.23 E. 188.56

13. Section 4.3; Problem 20 (e)

A. 231.26 B. 231.58 C. 151.77 D. 268.23 E. 188.56

14. Section 4.3; Using the same distribution as in Problem 20, find the value of the Third Quartile.

A. 231.26 B. 231.58 C. 151.77 D. 268.23 E. 188.56

15. In a certain town (A), a family's mean weekly grocery spending is $450 with a standard deviation of $35. In a second town (B), the mean is $575 with a standard deviation of $10. A person in Town A has a weekly grocery budget of $400, and a person in Town B has a weekly budget of $450. Which person spends more on groceries, relative to the others in their communities?

A. The person from Town A spent more, relative to the others in the town.

B. The person from Town B spent more, relative to the others in the town.

C. The two people spent the same amount, relative to others in their town.

D. It cannot be determined from the information provided who spent more.

16. Section 4.4; Problem 6

A. 0.1582 B. 0.0164 C. 0.5260

D. 0.3517 E. 0.6563

17. Section 4.4; Problem 10

A. 0.3444 B. 0.6556 C. 0.5080

D. 0.4920 E. 0.9998

18. Section 4.4; Problem 12

A. $\mu_{\hat{p}} = 76;\ \sigma_{\hat{p}} = 0.0872$

B. $\mu_{\hat{p}} = 0.76;\ \sigma_{\hat{p}} = 0.0018$

C. $\mu_{\hat{p}} = 0.76;\ \sigma_{\hat{p}} = 0.0427$

D. $\mu_{\hat{p}} = 0.24;\ \sigma_{\hat{p}} = 0.0427$

E. $\mu_{\hat{p}} = 0.76;\ \sigma_{\hat{p}} = 0.0043$

19. Section 4.4; Problem 14

A. 0.8664 B. 0.7112 C. 0.0598 D. 0.2923

E. Assumptions were not met, so problem cannot be solved.

20. Determine the following:

Part A: P(X > 654) for N(650, 10)

Part B: P(Z < 0.72)

Proposed Solution:

Part A: 1 – pnorm(654, 650, 10) = 0.3445783

Part B: qnorm(0.72) = 0.5828415

What was done wrong in the proposed solution?

A. In Part B, the command pnorm(0.72) should have been used since we are looking for a probability.

B. In Part B, no mean or standard deviation was provided, so the problem cannot be solved.

C. In Part A, pnorm(654, 650, 10) should have been used, without the subtraction.

D. In Part A, the mean and standard deviation were not explicitly stated, so the problem cannot be solved.

E. Nothing was done wrong in the proposed solution.