Elementary Statistics	**Name:** _____
Study Guide 10	**Class:** _____
Due Date: _____	**Score:** _____

Your solutions must be consistent with class notes & resources.

Be Neat, Organized, and No Work $\Leftrightarrow$ No Points

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1. (2 points) Reduce $\frac{175}{400}$ to a simplest fraction.

1. _____

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2. (2 points) Write 0.5% in reduced fraction and in decimal.

2. _____

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3. (1 point) Write 1.725×10^{-4} in standard notation.

3. _____

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4. (1 point) Write 0.000000000025 in scientific notation.

4. _____

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5. (2 points) In a survey of 1250 students in the college, 8.5% of them were left–handed. How many of those students were left–handed? Round up your answer to a whole number.

5. _____

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6. (2 points) In a survey of 820 students, 245 of them were STEM majors. What percent of these students were STEM majors? Round your answer to the nearest whole percent.

6. _____

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7. (2 points) <u>True</u> or <u>False</u>: Probability of any event can be any real number.

7. _____

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8. (2 points) <u>True</u> or <u>False</u>: The sum of all probabilities of all events in an experiment is always 1.

8. _____

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9. (2 points) When $P(A) = 1$, then event A is considered a _____ event.

9. _____

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10. (2 points) When $P(A) = 0$, then event A is considered a _____ event.

10. _____

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11. (2 points) If event A is considered a rare event, what is $P(A)$?

11. _____

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12. (2 points) If $P(A) = 0.025$, find $P(\overline{A})$ in percent notation, rounded to one decimal place.

12. _____

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13. (2 points) If $P(\overline{A}) = \dfrac{5}{24}$, find $P(A)$ in decimal notation.

13. _____

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14. (2 points) What is the probability of selecting a face card or a red card randomly from a deck of playing cards?

14. _____

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15. (2 points) What is the probability of selecting a red face card randomly from a deck of playing cards?

15. _____

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16. If a $25-$sided fair die that is numbered from 1 to 25 is rolled once, find the probability of getting

(a) (2 points) a number less than 5 or at least 20. Show your work in details.

(a) _____

(b) (2 points) a number less than 5 and at least 20. Show your work in details.

(b) _____

(c) (2 points) an even number. Show your work in details.

(c) _____

(d) (2 points) an odd number. Show your work in details.

(d) _____

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17. (2 points) What is the probability that any randomly selected person has a birthday today?

17. _____

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18. (2 points) What is the probability that any randomly selected person has a birthday in a randomly selected calendar week?

18. _____

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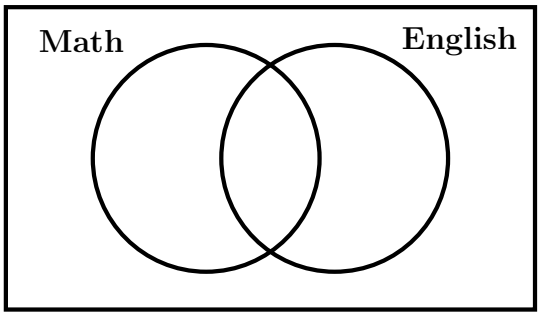
19. (3 points) In a survey of 50 students, 38 students were taking math or English class while 12 of them were taking both classes and 7 were taking only math class. Use this information to construct the Venn Diagram for the number of students in each region.



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20. A survey was conducted about certain issue, the result is summarized below.

	YES	NO	Total
Female	38	22	
Male	27	13	
Total			

If one person is randomly selected, find the probability in reduced fraction that

(a) (2 points) this person had a yes respond.

(a) _____

(b) (2 points) this person was a female and had a yes respond.

(b) _____

(c) (3 points) this person was a female or had a yes respond.

(c) _____

Education is the premise of progress in every community.