Math 160   Final Exam Practice
SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Identify the population and the sample.

1) When 1564 American households were surveyed, it was found that 57% of them owned   1) _____
   two cars.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Identify whether the statement describes inferential statistics or descriptive statistics.

2) The chances of winning the California Lottery are one chance in twenty–two million. Does this   2) _____
   statement describe:
   A) inferential statistics   B) descriptive statistics

Use the given frequency distribution to find the
   (a) class width.
   (b) class midpoints of the first class.
   (c) class boundaries of the first class.

3)   **Height (in inches)**   3) _____

Class	Frequency, f
50 – 52	5
53 – 55	8
56 – 58	12
59 – 61	13
62 – 64	11

   A) (a) 2   B) (a) 3   C) (a) 3   D) (a) 2
      (b) 51.5   (b) 51   (b) 51   (b) 51.5
      (c) 49.5–52.5   (c) 50–52   (c) 49.5–52.5   (c) 50–52

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

4) Explain the difference between class limits and class boundaries.   4) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

5) For the stem–and–leaf plot below, what is the maximum and what is the minimum entry?   5) _____

   Key : 11│2 = 11.2

   11 │ 0 2
   12 │ 4 6 6 7 8 9
   13 │ 0 1 1 2 3 6 6 7 8 8
   14 │ 3 4 6 6 8 9 9 9
   15 │ 0 1 1 2 3 7 7 8 9
   16 │ 2 2 5 7 8 8 9 9
   17 │ 0 5
      A) max: 17.0; min: 11.0   B) max: 17.5; min: 11.2
      C) max: 17.5; min: 11.0   D) max: 175; min: 110

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6) The cost of five homes in a certain area is given.   6) _____

$164,000 $172,000 $192,000 $162,000 $1,242,000

Which measure of central tendency should be used?
   A) mode   B) mean   C) median   D) midrange

7) The average IQ of students in a particular calculus class is 110, with a standard deviation of 5. The   7) _____
distribution is roughly bell–shaped. Use the Empirical Rule to find the percentage of students with
an IQ above 120.
   A) 13.5%   B) 11.15%   C) 2.5%   D) 15.85%

8) A competency test has scores with a mean of 82 and a standard deviation of 2. A histogram of the   8) _____
data shows that the distribution is normal. Between what two values do about 99.7% of the values
lie?
   A) Between 74 and 90   B) Between 78 and 86
   C) Between 80 and 84   D) Between 76 and 88

9) The birth weights for twins are normally distributed with a mean of 2353 grams and a standard   9) _____
deviation of 647 grams. Use z–scores to determine which birth weight could be considered
unusual.
   A) 2000 g   B) 3647 g   C) 1200 g   D) 2353 g

10) In a survey of college students, 880 said that they have cheated on an exam and 1721 said that they   10) _____
have not. If one college student is selected at random, find the probability that the student has
cheated on an exam.
   A) $\frac{2601}{880}$ B) $\frac{2601}{1721}$ C) $\frac{880}{2601}$ D) $\frac{1721}{2601}$

11) Classify the events as dependent or independent.   11) _____
The events of getting two aces when two cards are drawn from a deck of playing cards and the
first card is replaced before the second card is drawn.
   A) independent   B) dependent

12) A group of students were asked if they carry a credit card. The responses are listed in the table.   12) _____

Class	Credit Card Carrier	Not a Credit Card Carrier	Total
Freshman	18	42	60
Sophomore	40	0	40
Total	58	42	100

If a student is selected at random, find the probability that he or she owns a credit card given that
the student is a sophomore. Round your answer to three decimal places.
   A) 0.000   B) 0.690   C) 0.400   D) 1.000

13) Find the probability that of 25 randomly selected students, no two share the same birthday.   13) _____
   A) 0.995   B) 0.569   C) 0.431   D) 0.068

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14) Decide if the events A and B are mutually exclusive or not mutually exclusive, A die is rolled.   14) _____
   A: The result is a 3.
   B: The result is an odd number.
      A) mutually exclusive   B) not mutually exclusive

15) A card is drawn from a standard deck of 52 playing cards. Find the probability that the card is an   15) _____
   ace or a black card.
      A) $\dfrac{4}{13}$ B) $\dfrac{15}{26}$ C) $\dfrac{29}{52}$ D) $\dfrac{7}{13}$

16) The events A and B are mutually exclusive. If P(A) = 0.2 and P(B) = 0.4, what is P(A or B)?   16) _____
      A) 0   B) 0.08   C) 0.6   D) 0.2

1) population: collection of all American households; sample: collection of 1564 American households surveyed
2) A
3) C
4) Class limits determine which numbers can belong to that class. Class boundaries are the numbers that separate classes without forming gaps between them.
5) C
6) C
7) C
8) D
9) B
10) C
11) A
12) D
13) C
14) B
15) D
16) C