

Practice test 1  
 Chapters 1, 2, and 3  
 Math 1121

1.

After inspecting all of 55,000 kg of meat stored at the Wurst Sausage Company, it was found that 45,000 kg of the meat was spoiled.

A) Statistic

B) Parameter

2.

The temperature of a cup of coffee is 67.3°F.

A) Discrete

B) Continuous

3.

A quality control specialist compares the output from a machine with a new lubricant to the output of machines with the old lubricant.

A) Experiment

B) Observational study

4.

Identify which of these types of sampling is used: random, stratified, systematic, cluster, convenience.

A pollster uses a computer to generate 500 random numbers, then interviews the voter corresponding to those numbers.

A) Convenience

B) Random

C) Systematic

D) Cluster

E) Stratified

5.

The frequency distribution below summarizes the home sale prices in the city of Summerhill for the month of June. Determine the width of each class.

(Sale price in thousand \$)	Frequency
80.0 - 110.9	2
111.0 - 141.9	5
142.0 - 172.9	7
173.0 - 203.9	10
204.0 - 234.9	3
235.0 - 265.9	1

$$111 - 80 = 31$$

A) 30

B) 61

C) 28

D) 31

6.

The following frequency distribution analyzes the scores on a math test. Find the class boundaries of scores interval 95-99.

Scores	Number of students
40-59	2
60-75	4
76-82	6
83-94	13
95-99	5

$$94.5 - 99.5$$

A) 94.5, 99.5

B) 95.5, 100.5

C) 95.5, 99.5

D) 94.5, 100.5

7.

Kevin asked some of his friends how many hours they had worked during the previous week at their after-school jobs. The results are shown below.

5 6 5 4 5 5 9 7 5 4 7 6  
6 7 5 6 7 5 6 7 6 7 7 4

Construct a frequency distribution. 4 classes

Hours	Frequency
4-5	10
6-7	13
8-9	1
10-11	0

$$\frac{9-4}{4} = \frac{5}{4} = 1.25$$

$$1+1 = 2$$

8.

Find the original data from the stemplot.

Stem	Leaves
5.4	1 8
5.5	8 9
5.6	1 9 9

A) 0.64, 0.64, 1.35, 1.35, 1.45, 0.66, 1.46, 1.47

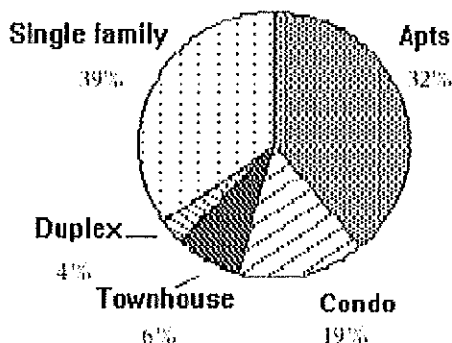
B) 5.41, 5.42, 5.58, 5.59, 5.63, 5.69, 5.69

C) 0.64, 1.34, 1.35, 1.45, 0.66, 1.46, 1.46

D) 5.41, 5.48, 5.58, 5.59, 5.61, 5.69, 5.69

9.

The pie chart shows the percent of the total population of 78,100 of Springfield living in the given types of housing. Round your result to the nearest whole number.



$$(0.04)(78,100) = 3124$$

Find the number of people who live in duplexes.

- A) 4 people  
 B) 7029 people  
 C) 3124 people  
 D) 74,976 people

10.

Calculate the central angle for the Apts category.

$$0.32 \times 360^\circ = 115.2^\circ$$

11.

Last year, nine employees of an electronics company retired. Their ages at retirement are listed below. Find the mean retirement age.

- 52 68 64  
 50 64 58  
 60 50 50

- A) 56.1 yr  
 B) 56.7 yr  
 C) 58.0 yr  
 D) 57.3 yr

12.

The distances (in miles) driven in the past week by each of a company's sales representatives are listed below.

- 113 143 269 251 380 460

Find the median distance driven.

- A) 251 mi  
 B) 230.50 mi  
 C) 260 mi  
 D) 269 mi

13.

The test scores of 40 students are summarized in the frequency distribution below. Find the mean score.

Score	Students
50-59	8
60-69	7
70-79	10
80-89	9
90-99	6

L1	L2
54.5	8
64.5	7
74.5	10
84.5	9
94.5	6
74.0	

- A) 74.5  
 B) 70.3  
 C) 74.0  
 D) 66.6

14. A student earned grades of B, B, A, C, and D. Those courses had these corresponding numbers of credit hours: 3, 6, 2, 6, 3. The grading system assigns quality points to letter grades as follows: A = 4, B = 3, C = 2, D = 1, and F = 0. Compute the grade point average (GPA) and round the result to two decimal places.

- A) 1.50      **B) 2.50**      C) 3.85      D) 10.00

L <sub>1</sub>	L <sub>2</sub>
3	3
3	6
4	2
2	6
1	3

15. Listed below are the systolic blood pressures (in mm Hg) for a sample of men aged 20-29 and for a sample of men aged 60-69.

Men aged 20-29: 120 124 130 118 131 123  
 Men aged 60-69: 130 148 141 125 164 139

- (A)** Men aged 20-29: 4.2%  
 Men aged 60-69: 9.8%  
 There is substantially more variation in blood pressures of the men aged 60-69.
- B) Men aged 20-29: 4.4%  
 Men aged 60-69: 10.2%  
 There is substantially more variation in blood pressures of the men aged 60-69.
- C) Men aged 20-29: 6.9%  
 Men aged 60-69: 4.5%  
 There is more variation in blood pressures of the men aged 20-29.
- D) Men aged 20-29: 4.0%  
 Men aged 60-69: 7.8%  
 There is substantially more variation in blood pressures of the men aged 60-69.

20-29:  $CV = \frac{5.24}{124.33} \times 100\%$   
 $CV = 4.21\%$

60-69:  $CV = \frac{13.85}{141.17} \times 100\%$   
 $= 9.81\%$

$\pm 1$  standard deviation from the mean

16. At one college, GPA's are normally distributed with a mean of 2.6 and a standard deviation of 0.4. What percentage of students at the college have a GPA between 2.2 and 3?

- A) 95%      **B) 68%**      C) 84.13%      D) 99.7%

17. The annual snowfall in a town has a mean of 31 inches and a standard deviation of 11 inches. Last year there were 66 inches of snow. How many standard deviations from the mean is that?

- A) 3.18 standard deviations below the mean  
**(B)** 3.18 standard deviations above the mean  
 C) 0.30 standard deviations below the mean  
 D) 0.30 standard deviations above the mean

$\frac{(66 - 31)}{11} = 3.18$

18. Find the percentile for the data value.

Data set: 4 12 9 6 4 4 12 6 4 12 2 12 15 5 9 4 12 9 6 12;  
 data value: 6

- A) 62      B) 25      C) 40      **D) 35**

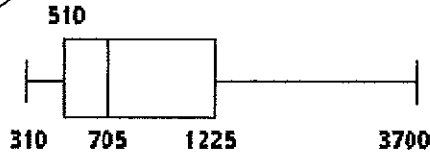
$\frac{7}{20} \times 100\% = 35\%$

19.

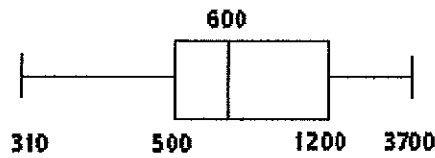
The weekly salaries (in dollars) of 24 randomly selected employees of a company are shown below. Construct a boxplot for the data set.

310 320 450 460 470 500 520 540  
580 600 650 700 710 840 870 900  
1000 1200 1250 1300 1400 1720 2500 3700

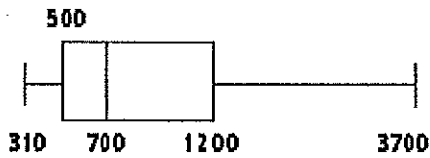
A)



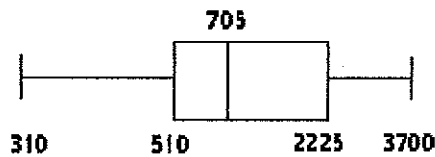
B)



C)



D)



20.

What is the interquartile range of problem 19?

$$q_3 - q_1 = 1225 - 510 = 715$$