

Name \_\_\_\_\_

**A bag contains 6 cherry, 3 orange, and 2 lemon candies. You reach in and take 3 pieces of candy at random. Find the probability.**

1) 2 orange, 1 lemon

- A) .0364                      B) .1091                      C) .3636                      D) .0303

**Solve the problem.**

2) Estimate the probability that at least 2 of the 50 state governors have the same birthday.

- A) .950                      B) .965                      C) .956                      D) .970

**A die is rolled five times and the number of fours that come up is tallied. Find the probability of getting the given result.**

3) Exactly three fours

- A) .161                      B) .402                      C) .032                      D) .003

**Find the probability of the event.**

4) A 10-question multiple choice test has 4 possible answers for each question. A student selects at least 6 correct answers.

- A) .118                      B) .020                      C) .989                      D) .995

**Prepare a probability distribution for the experiment. Let  $x$  represent the random variable, and let  $P$  represent the probability.**

5) Three coins are tossed, and the number of tails is noted.

- |   |        |     |   |       |   |       |   |       |   |       |   |     |     |   |       |   |       |   |       |   |       |   |     |     |   |        |   |        |   |        |   |        |   |     |     |   |       |   |       |   |       |   |       |
|---|--------|-----|---|-------|---|-------|---|-------|---|-------|---|-----|-----|---|-------|---|-------|---|-------|---|-------|---|-----|-----|---|--------|---|--------|---|--------|---|--------|---|-----|-----|---|-------|---|-------|---|-------|---|-------|
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| 0   | $3/16$ |     |   |       |   |       |   |       |   |       |   |     |     |   |       |   |       |   |       |   |       |   |     |     |   |        |   |        |   |        |   |        |   |     |     |   |       |   |       |   |       |   |       |
| 1   | $5/16$ |     |   |       |   |       |   |       |   |       |   |     |     |   |       |   |       |   |       |   |       |   |     |     |   |        |   |        |   |        |   |        |   |     |     |   |       |   |       |   |       |   |       |
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| 0   | $1/8$  |     |   |       |   |       |   |       |   |       |   |     |     |   |       |   |       |   |       |   |       |   |     |     |   |        |   |        |   |        |   |        |   |     |     |   |       |   |       |   |       |   |       |
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6) Three balls are drawn from a bag containing 5 red and 3 green balls. The number of green balls is counted.

- |   |       |     |   |      |   |      |   |      |   |      |   |     |     |   |       |   |       |   |       |   |       |   |     |     |   |      |   |      |   |      |   |      |   |     |     |   |       |   |       |   |       |   |       |
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**Find the mean for the list of numbers.**

7) 16, 9, 4, 11, 6, 3, 4 (Round to the nearest tenth)

- A) 7.1                      B) 8.8                      C) 7.6                      D) 9.1

**Find the mean. Round to the nearest tenth.**

8) 

| Value | Frequency |
|-------|-----------|
| 16    | 4         |
| 18    | 20        |
| 24    | 18        |
| 28    | 13        |
| 34    | 6         |

| Value | Frequency |
|-------|-----------|
| 16    | 4         |
| 18    | 20        |
| 24    | 18        |
| 28    | 13        |
| 34    | 6         |

- A) 23.3                      B) 24.1                      C) 2.0                      D) 27.3

**Find the median.**

9) 2, 10, 17, 26, 31, 33, 46

- A) 31                      B) 26                      C) 17                      D) 24

**Find the mode or modes.**

10) 89, 25, 89, 13, 25, 29, 56, 89

- A) 51.9                      B) 89                      C) 42.5                      D) 25

**Find the range for the set of data numbers.**

11) 8, 16, 2, 15, 12

- A) 16                      B) 4                      C) 2                      D) 14

**Find the standard deviation.**

12) 14, 17, 11, 8, 17, 15, 7, 8, 16

- A) 4.1                      B) 3.9                      C) 4.4                      D) 1.6

**Find the standard deviation of the data summarized in the given frequency table.**

13) The test scores of 40 students are summarized in the frequency table below. Find the standard deviation.

| Score   | Students |
|---------|----------|
| 50 - 59 | 5        |
| 60 - 69 | 7        |
| 70 - 79 | 13       |
| 80 - 89 | 10       |
| 90 - 99 | 5        |

- A) 12.7                      B) 11.5                      C) 12.1                      D) 10.9

**If Z is a standard normal variable, find the probability.**

14)  $P(Z > 0.59)$

- A) 0.2776                      B) 0.2190                      C) 0.2224                      D) 0.7224

- 15)  $P(Z < 0.97)$   
A) 0.1660                      B) 0.8078                      C) 0.8340                      D) 0.8315

- 16)  $P(-0.73 < Z < 2.27)$   
A) 1.54                              B) 0.7557                      C) 0.2211                      D) 0.4884

**Find the percent of the total area under a normal curve that is contained within the specified interval.**

- 17) Between  $z = 1.41$  and  $z = 2.83$   
A) 7.7%                              B) 7.85%                      C) 7.9%                              D) 7.8%

- 18) Find the percent of the area between  $z = -2.49$  and  $z = 1.19$ .  
A) 11.1%                              B) 86.8%                      C) 87.7%                              D) 11.3%

**Assume the distribution is normal. Use the area of the normal curve to answer the question. Round to the nearest whole percent.**

- 19) The mean clotting time of blood is 7.35 seconds, with a standard deviation of .35 seconds. What is the probability that blood clotting time will be less than 7 seconds?  
A) 15%                              B) 16%                              C) 84%                              D) 14%
- 20) The average size of the fish in a lake is 11.4 inches, with a standard deviation of 3.2 inches. Find the probability of catching a fish longer than 17 inches.  
A) 4%                                      B) 8%                                      C) 5%                                      D) 96%

**Find the indicated probability.**

- 21) Assume that the weights of quarters are normally distributed with a mean of 5.67 g and a standard deviation 0.070 g. A vending machine will only accept coins weighing between 5.48 g and 5.82 g. What percentage of legal quarters will be rejected?  
A) 0.0196%                              B) 1.96%                              C) 2.48%                              D) 1.62%

**Solve the problem using the normal curve approximation to the binomial distribution.**

- 22) In one county, the conviction rate for speeding is 85%. Estimate the probability that of the next 100 speeding summonses issued, there will be at least 90 convictions.  
A) .0420                                      B) .8962                                      C) .1038                                      D) .3962

## Answer Key

Testname: M1324 REVIEW 4

- 1) A
- 2) D
- 3) C
- 4) B
- 5) D
- 6) C
- 7) C
- 8) A
- 9) B
- 10) B
- 11) D
- 12) A
- 13) C
- 14) A
- 15) C
- 16) B
- 17) A
- 18) C
- 19) B
- 20) A
- 21) B
- 22) C