

Review 3

1) Determine whether the distribution represents a probability distribution.

1) _____

x	5	-6	7	8
$P(x)$	0.57	0.13	0.13	0.17

A) Yes

B) No

2) Find the mean of the distribution shown below.

2) _____

X	2	3	4
$P(X)$	0.32	0.48	0.20

A) 1.00

B) 2.88

3) Give the variance of the following distribution?

3) _____

X	0	1	2	3	4
$P(X)$	0.20	0.35	0.10	0.25	0.10

A) 1.31

B) 1.71

4) What is the standard deviation of the following probability distribution.

4) _____

X	0	2	4	6	8
$P(X)$	0.20	0.05	0.35	0.25	0.15

A) 2.6

B) 3.9

5) Compute the probability of X successes.

5) _____

$$n = 4, X = 3, p = 0.1$$

A) 0.004

B) 0.750

6) Compute the probability of X successes.

6) _____

$$n = 7, X = 6, p = 0.3$$

A) 0.857

B) 0.004

7) A coin is tossed five times. Find the probability of getting exactly three heads.

7) _____

A) 0.313

B) 0.125

8) A student takes a 12 question, True/False exam. Find the probability of guessing at least 9 questions correctly.

8) _____

A) 0.927

B) 0.073

- 9) A coin is tossed 72 times. Find the mean, variance, and the standard deviation for the number of heads that will be tossed. 9) _____
- A) $\mu = 18, \sigma^2 = 9, \sigma = 2.21$ B) $\mu = 36, \sigma^2 = 18, \sigma = 4.24$
- 10) Determine the indicated probability for a binomial experiment with the given number of trials n and the given success probability p . 10) _____
- $n = 14, p = 0.1, P(3 \text{ or fewer})$
- A) 0.8416 B) 0.9559
- 11) Find the area under the standard normal distribution curve to the left of $z = -0.51$ using the standard normal distribution. 11) _____
- A) 0.4900 B) 0.3050
- 12) Find the area under the standard normal distribution curve to the right of $z = 0.78$ using the standard normal distribution. 12) _____
- A) 0.2823 B) 0.2177
- 13) In the standard normal distribution, find the z value that corresponds to the 97th percentile. 13) _____
- A) 1.88 B) 1.80
- 14) A bottler of drinking water fills plastic bottles with a mean volume of 990 milliliters (mL) and standard deviation 6 mL. The fill volumes are normally distributed. What is the probability that a bottle has a volume less than 996 mL? 14) _____
- $P(X < 996)$:
- A) 0.8413 B) 0.9772
- 15) A bottler of drinking water fills plastic bottles with a mean volume of 998 milliliters (mL) and standard deviation 5 mL. The fill volumes are normally distributed. What is the probability that a bottle has a volume greater than 991 mL? $P(X > 991)$ 15) _____
- A) 0.9998 B) 0.9192

Find the indicated probability.

- 16) The diameters of pencils produced by a certain machine are normally distributed with a mean of 0.30 inches and a standard deviation of 0.01 inches. What is the probability that the diameter of a randomly selected pencil will be less than 0.285 inches? If we sample 16 pencils, what is the probability that the sample mean is less than 0.295? 16) _____
- A) 0.0668, 0.0228 B) 0.4332, 0.3214

Answer Key

Testname: STA2023_REVIEW03

- 1) A
- 2) B
- 3) B
- 4) A
- 5) A
- 6) B
- 7) A
- 8) B
- 9) B
- 10) B
- 11) B
- 12) B
- 13) A
- 14) A
- 15) B
- 16) A