MAT-120 – HW #14– Answers

Please select the correct answer number of each question. There are more answers than questions. Answers may be repeated.

1) $\mu_{\bar{x}}$=15; $\sigma_{\bar{x}} = 2.0; P(15 \leq \bar{x} \leq 17) = P(0 \leq z \leq 1.00) = 0.3413$

2) $\mu_{\bar{x}}$=15; $\sigma_{\bar{x}} = 1.75; P(15(\leq \bar{x} \leq 17) = P(0 \leq z \leq 1.14) = 0.3729$

3) No; the sample size is only 9 and so is too small.

4) $\mu_{\bar{x}}$=15; $\sigma_{\bar{x}} = 5; P(15 \leq \bar{x} \leq 24) = P(0 \leq z \leq 1.00) = 0.3413$

5)

0.6293

6) No; $\bar{x}$ distribution also will not be normal.
7) Yes; the sample size is good.

8)

12.3%

9) The standard deviation is smaller in part b because of the larger sample size. Therefore, the distribution about $\mu_{\bar{x}}$ is narrower in part b.

10) Yes; $\bar{x}$ distribution also will be normal with $\mu_{\bar{x}}$ = 25; $\sigma_{\bar{x}}$ = 3.5/3; P (23≤ $\bar{x}$ ≤ 26) = P (-1.71 ≤ z ≤ 0.86) = 0.7615

11)0.05

12)

The sample means are normally distributed with mean = 16, and standard deviation = 0.12.

13)

0.0475.

14) 0.06