

MAT-120 – HW #13– Answers

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

1) 0.1234

2) No, it's skewed.

3) Figure 6-20 has the larger standard deviation. The mean of Figure 6-20 is $\mu = 10$. The mean of Figure 6-21 is $\mu = 4$.

4) 50%

5) 0.4993

6) 0.4474

7) 0.4321

8)

In this population 14 people (35% of 40) have never been abroad. The probability that in a random sample of 2, no one has been abroad is $(14/40)(13/39)$ or about .117

$$P(X \geq 1) = 1 - P(0) = .883$$

9)

70.32 (85th percentile)

10) $P(x > 80 \text{ lb}) = P(z > 1.00) = 0.1587$

11) No, it crosses the horizontal axis.

12) 68.2%

13)

This is not a binomial experiment. We select without replacement and the population we choose from is small ($N=40$). The outcomes of trials are not independent, their probabilities change depending on outcomes of previous trials.

14) The probability of someone that have never been aboard is $(10/40)(13/39)$.

15) No, it has three peaks.

16) $P(3 \leq x \leq 6) = P(-0.50 \leq z \leq 1.00) = 0.5328$

17) $P(x < 50 \text{ lb}) = P(z < -1.50) = 0.0668$

18)

1.96%

19) 99.7%

20) $P(50 \leq x \leq 80) = P(-1.50 \leq z \leq 1.00) = 0.7745$

21) $P(3 \leq x \leq 80) = P(-1.50 \leq z \leq 1.00) = 0.8$

22) Calculator verifies the results.

23) Robert, Jan, and Linda each scored above the mean.

24) No, the curve is not smooth.

25) Robert, 172; Jan, 184; Susan, 110; Joel, 150; John, 134; Linda, 182.

26)

\$55.30; \$68.70

27)

5.49 g and 5.85 g

28) 6.2g and 6.3g

29) Joel scored on the mean.

30) Susan and John scored below the mean.