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BSCS3A

ACTIVITY 3 (Solution):

Question 1

	x	p	xp	x2	x2p
	23	0.11	2.53	529	58.19
	24	0.15	3.6	576	86.4
	25	0.18	4.5	625	112.5
	26	0.43	11.18	676	290.68
	27	0.13	3.51	729	94.77
Sum	125	1	25.32	3135	642.54
Mean	25.32				
Variance	1.4376				
SD	1.20				

Question 2

	x	p	xp	x2	x2p
	2	0.1	0.2	4	0.4
	4	0.3	1.2	16	4.8
	6	0.4	2.4	36	14.4
	8	0.2	1.6	64	12.8
Sum	20	1	5.4	120	32.4
Mean	5.4				
Variance	3.24				
SD	1.80				

Question 3-a&c

	x	p	xp	x2	x2p	
	5	0.22	1.1	25	5.5	
	6	0.16	0.96	36	5.76	
	7	0.31	2.17	49	15.19	
	8	0.31	2.48	64	19.84	
Sum	26	1	6.71	174	46.29	
Mean	6.71					
Variance	1.2659					
SD	1.1251					

Question 3-b

	x	p	x-mean	(x-mean)2	(x-mean)2(P)	xp
	5	0.22	-1.71	2.9241	0.643302	1.1
	6	0.16	-0.71	0.5041	0.080656	0.96
	7	0.31	0.29	0.0841	0.026071	2.17
	8	0.31	1.29	1.6641	0.515871	2.48
Sum	26	1				6.71
Mean	6.71					

Question 13:

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1 - p_0)}{n}}}$$

$$z = \frac{0.28 - 0.30}{\sqrt{\frac{0.30(1 - 0.30)}{2419}}}$$

$$z = -2.07$$

$$p - value = 0.01923$$

$$p \leq level\ of\ significance$$

Question 14:

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1 - p_0)}{n}}}$$

$$z = \frac{0.38 - 0.35}{\sqrt{\frac{0.35(1 - 0.35)}{2371}}}$$

$z = 2.63$

$p - value = 0.99573$

$p > level\ of\ significance$

Question 15:

$$z = \frac{\bar{x} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

$$z = \frac{98.33 - 98.6}{\frac{0.93}{\sqrt{55}}}$$

$z = -2.15$

$p - value = 0.01578$

$p \leq level\ of\ significance$

Question 16:

$$z = \frac{\bar{x} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

$$z = \frac{40.44 - 40}{\frac{2.4}{\sqrt{38}}}$$

$z = 1.13$

$$p - value = 0.87076$$

$$p \leq level\ of\ significance$$

Question 19:

$$z = \frac{\bar{x} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

$$z = \frac{29.62 - 31.27}{\frac{10.3}{\sqrt{200}}}$$

$$z =- 2.27$$

$$p - value = 0.01160$$

$$p \leq level\ of\ significance$$

14-16 po ay tama ang z-value pero mali p value kahit nitrace ko naman po

d) Calculate your test statistic. Write the result below, and be sure to round your final answer to two decimal places.

2.63 ✓ ♂

e) Calculate your p-value. Write the result below, and be sure to round your final answer to four decimal places.

0.9957 ✗ ♂

f) Do you reject the null hypothesis?

○ We reject the null hypothesis, since the p-value is less than the significance level.

○ We reject the null hypothesis, since the p-value is not less than the significance level.

○ We fail to reject the null hypothesis, since the p-value is less than the significance level.

◉ We fail to reject the null hypothesis, since the p-value is not less than the significance level.

♂ ✗

d) Calculate your test statistic. Write the result below, and be sure to round your final answer to two decimal places.

-2.15 ✓ ⚷

e) Calculate your p-value. Write the result below, and be sure to round your final answer to four decimal places.

0.0158 ✗ ⚷

d) Calculate your test statistic. Write the result below, and be sure to round your final answer to two decimal places.

1.13 ✓ ⚷

e) Calculate your p-value. Write the result below, and be sure to round your final answer to four decimal places.

0.8708 ✗ ⚷