

March Regional Statistics Solutions

1. C-Because .008 is below any reasonable alpha level
2. B-Standard deviation can be computed for any distribution
3. D-If x doesn't take on values on or near zero the contextual information from the y-intercept will seem ridiculous
4. A-None are true
5. C- $\frac{5}{36} + \frac{30}{36} - \frac{4}{36} = \frac{31}{36}$
6. D- $\frac{1}{2} \otimes 2 \otimes \frac{1}{8} = \frac{1}{8}$
7. B-B is not center at the sample mean
8. D
9. E-Voluntary response
10. B-

	F	M	TOT
NW	.2	.1	.3
W	.45	.25	.7
TOT	.65	.35	1
11. B-Carry out a chi-square goodness of fit test and you will get a chi-square value of 19.26 and a P-value of .0007
12. B- $\frac{30-22}{\sigma} = \frac{2}{3} \rightarrow \sigma = 12$
13. C-Correlation does not change when you switch the variables
14. A- First four must fail so $.9^4 = .6561$
15. C-The purpose of a interval is to learn about the population. If you already know population it makes no sense to create an interval
16. C-Good experiments always have a control
17. D- $(8 \cdot 10 \cdot 10 - 1)(10^4)$
18. C-You can never draw causation from a observational study
19. E-The mean is increasing because np is growing, but the standard deviation increases when p gets closer to .5 not necessarily when it is increasing
20. D-Because zero is in the interval or T=.78 will yield a high P-value
21. B-With only five numbers it is difficult to ascertain the shape
22. C
23. E
24. B- $.4(60) + .3(80) = 48$
25. C-

X	P	XP
4	.4	1.6
6	.2	1.2
8	.4	3.2
	6	4x6=24
26. B-To cut margin of error in half you must increase the sample size by a factor of 4. This because n is located in the denominator and is under the square root sign
27. B-Geometric
28. D-59-68 is the same length but is closer to the mean so more likely to occur
29. C-Sample is large so population shape is irrelevant by the central limit theorem
30. C-

n-1=54	n=55
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