Sample Exam 3 Answers

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1. X = finite discrete ; Y = continuous

2. i) .9721 ii).2175 iii) .5649 iv) .3913

3. $\frac{4}{7}$

4. i) .3545 ii) .9985 iii).0035

5. i).0249 ii).2005 iii).998 iv) .926

6. i)100 ii) .3204 iii) 113

7. .2778

8. .618

9. 1500

10. i) R1,G1 ii)impossible iii)R1,R2

11. B) .216 C) .0267 D).0751 E) .5317

12. ii) R2,G2 iii)impossible iv)R1,R2

13. The events A&B are independent

    $P(A \cap B) = P(A) + P(B) - P(A \cup B)$ so $P(A \cap B) = .15 = P(A)P(B)$.

14. impossible

15. -2,-2,-2,2,2,2

16.

X	0	1	2	3	4
p	.179	.384	.311	.111	.015

17. i) .0626 ii) lower=49.5 , upper=1E99 , μ=40

18. $\mu = 5.2$, $\sigma = 2.7495$, $\sigma^2 = 7.56$

19. P(exactly r successes in n trials) $= C(n, r)p^r q^{(n-r)}$

20. An experiment must be partitioned into trials. Each trial must have two distinct outcomes denoted success and failure. The probability of success must not change from trial to trial.

21. i)can only be used if the distribution is binomial i) and ii) can be used for any discrete distribution

22. The only time you have to add or subtract $\frac{1}{2}$ is when the true underlying distribution is discrete, but the approximating distribution is continuous.