1. Mutually exclusive means that $P(A \cap B) = \emptyset$ and independent means tha $P(A \cap B) = P(A)P(B)$. Two non-empty events which are mutually exclusive can not be independent.

2. (a) $\frac{7}{80}$
   (b) $\frac{20}{80}$
   (c) $\frac{3}{40}$
   (d) $\frac{1}{17}$
   (e) $\frac{2}{80}$

3. .3099

4. (a) $\frac{4}{17}$
   (b) $\frac{3}{16}$
   (c) .5735

5. (a) .01622
   (b) .0035057
   (c) .0020856857
   (d) E(x) = 2.5

6. .937

7. (a) .9722
   (b) .0278
   (c) .0274

8. (a) .05
   (b) .4130
   (c) .8167

9. (a) .96
   (b) .4615
   (c) 78%

10. (a) .2
    (b) .15+.35 = .5
    (c) No
    (d) No
    (e) $\frac{4}{7}$
    (f) .7
    (g) $\frac{7}{11}$

11. (a) infinite discrete
    (b) continuous
    (c) finite discrete
    (d) continuous

12. (a) .2529
    (b) 1

13. (a)

Number of Customers	0	1	2	3	4	5
Probability	$\frac{1}{60}$	$\frac{4}{60}$	$\frac{2}{60}$	$\frac{7}{60}$	$\frac{14}{60}$	$\frac{8}{60}$

Number of Customers	6	7	8	9	10
Probability	$\frac{10}{60}$	$\frac{6}{60}$	$\frac{3}{60}$	$\frac{4}{60}$	$\frac{1}{60}$

    (b) see class notes.
    (c) $\frac{41}{60}$
    (d) $\frac{55}{60}$
    (e) 4.95
    (f) MEAN= 4.95, MEDIAN = 5, MODE = 4
    Since the data represents a sample:
    VAR = 5.0652, ST. DEV = 2.2506

14. 4 to 47

15. $\frac{19}{22}$

16. 3000

17. distrabution table for part a.

Sum	Net Winnings	Probability
7, 11	10	$\frac{8}{36}$
2, 3 12	-10	$\frac{4}{36}$
other	-5	$\frac{24}{36}$

    (a) \$-2.22
    (b) \$6

18. .9133

19. 0.7958

20. (a) 0.6526
    (b) 4.8
    (c) 2.1014
    (d) 4.416

21. $P(111 \leq X \leq 139) \geq 0.4898$

22. ≤ 0.64