

Random Variables - Selected Answers

Page 2 - Discrete Random Variables

8)

X	P(X=x)
10	0.4
20	0.6

10) X = score

X	P(X=x)
4	6/25
6	4/25
8	6/26
9	4/25
11	4/25
14	1/25

Y = amount paid $E(Y) = -2.40$ $E(50Y) = -120.00$

Y	P(Y=y)
-6	6/25
-4	4/25
-2	6/26
-1	4/25
1	4/25
4	1/25

12) 12/11

Page 1 - Continuous Random Variables

5) 49/24

6) (a) 1/3 (b) 2

9) 2, 0.124

Page 13-25 - The Normal Distribution

P32 a. 1.29% b. 4.75% c. 34.5% d. 78.8%

P33 a. -0.47 b. -0.23 c. 1.13 d. 1.56

P34 a. 85.6% b. 99.7%

P35 a. -1.645 to 1.645 b. -1.96 to 1.96

P36 a. cancer b. cancer c. heart disease

P37 a. about 24.2% b. about 63.8 in.

P38 a. about 152 to 324 b. about 186 to 290

E61 a. 2 b. 1 c. 1.5 d. 3 e. -1 f. -2.5

E63 a. 0.6319 0.0395 0.3101 b. about 287 to 723

E65 76% 87%

E66 a. 0.159 b. 8.17 c. 10.0 d. 7.89

E71 a. 0.218 b. 1,207,650 c. 73.6 in.

Page 3-4 - The Binomial Distribution

Page 3

1 a. 0.0823 b. 0.680

2 a. 0.209 b. 0.0168 c. 0.00852

4 0.00200

7 a. 0.0808 b. 0.428

10 a. 0.318 b. 0.671 c. 0.126 d. 0.0324

Page 4

1 2.5, 1.5

2 0.844

4 a. 0.2 b. 0.00551

5 a. 0.25 b. 2.5 c. 0.282

Page 5-12 - The Poisson Distribution

Page 8

1 a. 0.0821 b. 0.205 c. 0.257 d. 0.214 e. 0.544 f. 0.242 g. 2.5

3 a. 0.0907 b. 0.308 c. 0.570 d. 0.779

4 a. 1.6 b. 0.976 c. 1.6

6 a. 2 b. 0.271

7 0.433

Page 11

1 a. 0.143 b. 0.762 c. 0.670

2 a. 0.0821 b. 0.242 c. 0.759 d. 0.0486 e. 0.125

5 a. 0.567 b. 0.184

7 a. 0.607 b. 0.185