Problem #2

Lesson learned: read the problem carefully. This was binomial.

n = 20

p = .7

q = .3

1. p(x <= 10) = (0) + p(2)+ p(3)+ p(4)+ p(5)+ p(6)+ p(7)+ p(8)+ p(9)+ p(10) = 0.048
2. p(x < 18) = p(0) + p(2)+ p(3)+ p(4)+ p(5)+ p(6)+ p(7)+ p(8)+ p(9)+ p(10)+ p(11) + p(12)+ p(13)+ p(14) + p(15)+ p(16)+ p(17) = 0.965
3. p(9 <= x <= 14) = p(x <= 14) – p(x <=8) = .584 - .005 = .579

problem #3

c.

Lesson learned: Slow down!! How could I, specially if I have to show all my work? I am super silly. I made super silly mistakes.

300 = (x-10,000) x 0.03 + 0.97 x

300 = 0.03x – 300 + 0.97x

600 = 1x

x = 600

The company would need to charge $600 if they would like to make $300 profit per client on average.

Problem #4

Lesson learned: Silly mistake. The question was asking for at least not at most.

b.

p(z>-1.49) = 0.5 + .4319 = 0.9319

Problem #5

Lesson learned: Once again a silly mistake. The mode is 1180 not 1080. I circle the two modes on the exam.

1. Mode 1060 and 1180

e. z = 1180 – 1065 / 93.005 = 1.2364 = 1.24

g. Price is a quantitative rational

problem #6

Lesson learned: I will have to better balance completing the test vs. showing work. I ran out of time. I know how to solve this type of problem but I ran out of time.

Peanut = 35 (put it back)

Milk chocolate = 40

Pretzel = 25

1. Eat exactly one M&M

Peanut, peanut, milk chocolate = 35/100 \* 35/100 \* 40/100 = 0.35 \* 0.35 \* 0.4 = 0.049

Peanut, peanut, pretzel = 35/100 \* 35/100 \* 25/100 = 0.35 \* 0.35 \* 0.25 = 0.030625

Peanut, milk chocolate, peanut = 35/100 \* 40/100 \* 35/99 = 0.35 \* 0.4 \* 0.3535 = 0.049

Peanut, pretzel, peanut = 35/100 \* 25/100 \* 35/99 = 0.35 \* 0.35 \* 0.25 \* 0.3535 = 0.0499

milk chocolate, peanut, peanut = 40/100 \* 35/99 \* 35/99 = 0.04999

Pretzel, peanut, peanut = 25/100 \* 35/99 \* 35/99 = 0.0312

= 0.2412

1. Eat at least two. We know the p(0) = 0.043 and p(1) = 0.2412

1 – p(0) – p(1) = 1 – 0.043 – 0.2412 = 0.7158

Problem # 7

5. Two mutually exclusive events are always dependent.