Q1.

a.

Open on Thursday, Friday and Saturday

Operation Time:= 4 hrs

Mean per hr= 20

St per hr= 5

Mean per open day= Mean per hr \*4= 80

St per open day = St per hr \*4 = 20

On Thursday AM I have 100 kg

Can make 100/1 pieces of pizza from 8.30 to 9.30 pm

a.

P(run out of dough) = P(sold out 100 pizza in 4 hours) =P(sold out 100 pizza per Open day)=P(>100)

P(<=100) = =NORM.DIST(100,80,20,TRUE)= 0.841344746

P(>100)=1- P(<=100)= 0.158655254

b.

no more than a 1% chance of stocking out till next Friday morning = enough dough for lasting 4 days

Mean = 80\*7 560

St =20\*7 140

Dough needed '=NORM.INV(0.99,560,140) 99% 885.6887024

Dough to order - 200 685.6887024

With assumption that they sold 0 pizza on Thursday when they order the inventory

c.

order double cheese probability: 7/(49+7)= 0.125

Z(0.05/2) = 1.96

0.125± 1.96√(0.125∗0.875/56) ≈0.125±0.08662