1. A. ‘Run out of dough before the end of day Thur’

‘Using less than 100kg of dough in 4 hours’

‘Selling less than 100/4 = 25s pizza in average per hour’

X-bar > 25

Find P(X>25) where X~N(20,5/sqrt(4))

= 1- NORM.DIST(25,20,5/2,TRUE)= 0.02275

b. ‘Amount of dough that needed to have no more than 1% change of stocking out by the time the next delivery arrives’

Find P(X< x) = 0.99 given X ~N (20,5/sqrt(24))

x=22.374 pizza per hour

Amount of dough required to order=22.374\*24 = 536.98 kg

c. np = 7 n(1-p) = 42

0.14286 + - 1.96 sqrt (0.14286 (1-0.14286)/49) = 0.24 + - 0.09798 = [0.14202,0.3380]

2. ‘survey population should have experienced a major appliance failure in fewer than 2 years’

X < 2

Find P(X<2) given X~N(10,3)

Norm.Dist (2,10,3,TRUE) = 0.00383 =0.38%

1. A. P(X>=3) given X~ binomial (n=6,p=2/6) =1-BINOM.DIST(2,6,(1/3),TRUE)=1-0.680 = 0.320

P(X>=4) given X~ binomial (n=5, p=3/6) =1- =BINOM.DIST(3,5,(1/2),TRUE)=1-0.813 = 0.188

b. . P(5<=X<=7) given X~ POISSON (lambda=4)

0.949 – 0.785 = 0.164