**Statistics & Probability using R Software – Aaron Connolly**

Week 9 Lab Work

```
> 1-pnorm(680,500,100)
[1] 0.03593032
> pnorm(45,45,4)
[1] 0.5
> 1-pnorm(45,45,4)
[1] 0.5
> 1-pnorm(50,45,4)
[1] 0.1056498
> pnorm(50,45,4)
[1] 0.8943502
> pnorm(50,45,4)-pnorm(40,45,4)
[1] 0.7887005
> 1-pnorm(37,45,4)
[1] 0.9772499
> 1-pnorm(680,500,100)
[1] 0.03593032
> pnorm(480,500,100)
[1] 0.4207403
> pnorm(680,500,100)-pnorm(480,500,100)
[1] 0.5433294
> x<- 0:5
> dbinom(x,size=5,prob=.95)
[1] 0.0000003125 0.0000296875 0.0011281250 0.0214343750
0.2036265625
[6] 0.7737809375
> dbinom(x=3, size=5, prob =.95)
[1] 0.02143438
> x<-0:10
> round(dbinom(x,10,0.50,4)
"round(dbinom(x,10,0.50,4)
round"
> round(dbinom(x, 10, 0.5), 4)
 [1] 0.0010 0.0098 0.0439 0.1172 0.2051 0.2461 0.2051 0.1172 0.0439
0.0098
[11] 0.0010
round(dbinom(x, 10, 0.5), 4)
 [1] 0.0010 0.0098 0.0439 0.1172 0.2051 0.2461 0.2051 0.1172 0.0439
0.0098
[11] 0.0010
> par(mfrow = c(2,2))
> x <- 0:5
> plot(x, dbinom(x, size = 5, prob = 0.95), xlab = "Number of Ready
Terminals",
```

Week 2 Lab Work

```
> downtime<-c(2,4,6,7,8,11,13,14,24,56,77,88,97)
> downtime
 [1]  2  4  6  7  8 11 13 14 24 56 77 88 97
> mean(downtime)
[1] 31.30769
> median(downtime)
[1] 13
> mode(downtime)
[1] "numeric"
> results <- read.table ("H:\\results.txt", header = T)
> results
   gender arch1 prog1 arch2 prog2
1       m    99    98    83    94
2       m    NA    NA    86    77
3       m    97    97    92    93
4       m    99    97    95    96
5       m    89    92    86    94
6       m    91    97    91    97
7       m   100    88    96    85
8       f    86    82    89    87
9       f    81    96    51    67
10      m    87    88    96    96
11      f    77    87    82    83
12      f    78    77    82    80
> results$prog2
 [1] 94 77 93 96 94 97 85 87 67 96 83 80
> results$arch1[5]
[1] 89
> attach(results)
> results
   gender arch1 prog1 arch2 prog2
1       m    99    98    83    94
2       m    NA    NA    86    77
3       m    97    97    92    93
4       m    99    97    95    96
5       m    89    92    86    94
6       m    91    97    91    97
7       m   100    88    96    85
8       f    86    82    89    87
9       f    81    96    51    67
10      m    87    88    96    96
11      f    77    87    82    83
12      f    78    77    82    80
> results$arch[4]
NULL
```

```
> arch1[4]
[1] 99
> mean(arch1)
[1] NA
> mean(arch2)
[1] 85.75
> na.rm=T
> mean(arch1, na.rm=T)
[1] 89.45455
> mean(prog1, na.rm=T)
[1] 90.81818
> mean(arch2, na.rm=T)
[1] 85.75
> mean(prog2, na.rm=T)
[1] 87.41667
> sapply(results,mean,na.rm=T)
  gender    arch1    prog1    arch2    prog2
      NA 89.45455 90.81818 85.75000 87.41667
```