NAME: Markus Afonso Set: C

MATH 1350 **Statistics for Information Technology**

Lab # 6 – Continuous Probability Distributions
Answer/Grading Sheet

Question:	**Answer**	**Mark**	

1	a)
	`> pnorm(2.52)`
	`[1] 0.9941323`
	b)
	`> pnorm(2.14) - pnorm(-1.06)`
	`[1] 0.8392503`
	c)
	`> pnorm(-0.72)`
	`[1] 0.2357625`
	d)
	`> 1 - pnorm(-2.03)`
	`[1] 0.9788217`
			/4

2	a)
	`> pnorm(90,97.27,10.84)`
	`[1] 0.2512172`
	b)
	`> pnorm(120,97.27,10.84) - pnorm(100,97.27,10.84)`
	`[1] 0.3825776`
	c) = 0
	d)
	`> 1 - pnorm(95,97.27,10.84)`
	`[1] 0.5829357`
			/4

3	a) 0.06731862 <= pnorm(x,44.9, 1.27) <= 0.9926756
	
	b)
	`> (1 - (pnorm(48,44.9, 1.27) - pnorm(43,44.9, 1.27))) * 100`
	`[1] 7.464307%`
			/2
			
			/2

4	`> qnorm(.02, 5570, 237)`
	`[1] 5083.262`
	About 5000 of the first pages should be under warranty
			/4

5	a)
	`> sqrt(sqrt(o1)+ sqrt(o2))`
	`[1] 2.440742`
	b)
	`> o12 <- sqrt(sqrt(o1)+ sqrt(o2))`
	`> 1- pnorm(120, (u1 +u2), o12)`
	`[1] 0.07347648`
			/2
			
			/2

NAME & Set: _____

Question:	Answer	Mark	

6	a)
	`> pnorm(log(115)/log(2.718281828459045235602874713527), 5.168, 1.23)`
	`[1] 0.3654391`
	b)
	`> 1 - pnorm(log(180,2.718281828459045235602874713527), 5.168, 1.23)`
	`[1] 0.491906`
			/2
			
			/2

R script /6

Paste your R script here. It should contain all the commands you used to find the probabilities in the questions 1-6 above.

```
# lab 6
# markus afonso

library(mosaic)

#1
pnorm(2.52)
pnorm(2.14) - pnorm(-1.06)
pnorm(-0.72)
1 - pnorm(-2.03)
#2
pnorm(90,97.27,10.84)
pnorm(120,97.27,10.84) - pnorm(100,97.27,10.84)
1 - pnorm(95,97.27,10.84)
#3
pnorm(x,44.9, 1.27)

pnorm(x,44.9, 1.27)

(qnorm(pnorm(48,44.9, 1.27),44.9, 1.27) + qnorm(pnorm(43,44.9, 1.27),44.9, 1.27))

(1 - (pnorm(48,44.9, 1.27) - pnorm(43,44.9, 1.27))) * 100

#4
qnorm(.02, 5570, 237)

#5
qnorm(.99,65.24, 7.42)
pnorm(60,51.22, 10.67)

u1 <-65.24
o1 <-7.24
u2 <-51.22
```

NAME & Set: _____

Question:	Answer	Mark	

```
o2 <-10.67

#Question 5
#a
sqrt(sqrt(o1)+ sqrt(o2))

o12 <- sqrt(sqrt(o1)+ sqrt(o2))
1- pnorm(120, (u1 +u2), o12)

#b
pnorm(100, (bat1_mean +bat2_mean), comb_sd)

#6

pnorm(5.168, 5.168, 1.23)


pnorm(log(115)/log(2.71828182845904523536028747135 27), 5.168, 1.23)

1 - pnorm(log(180,2.71828182845904523536028747135 27), 5.168, 1.23)
```

Total /30