Lec18_2

Exercise 3 (a)

```
storm <- read.csv("Stormchaser.csv")
head(storm)
```

```
##   Observation tornadoes
## 1           1         0
## 2           2         0
## 3           3         0
## 4           4         0
## 5           5         0
## 6           6         0
```

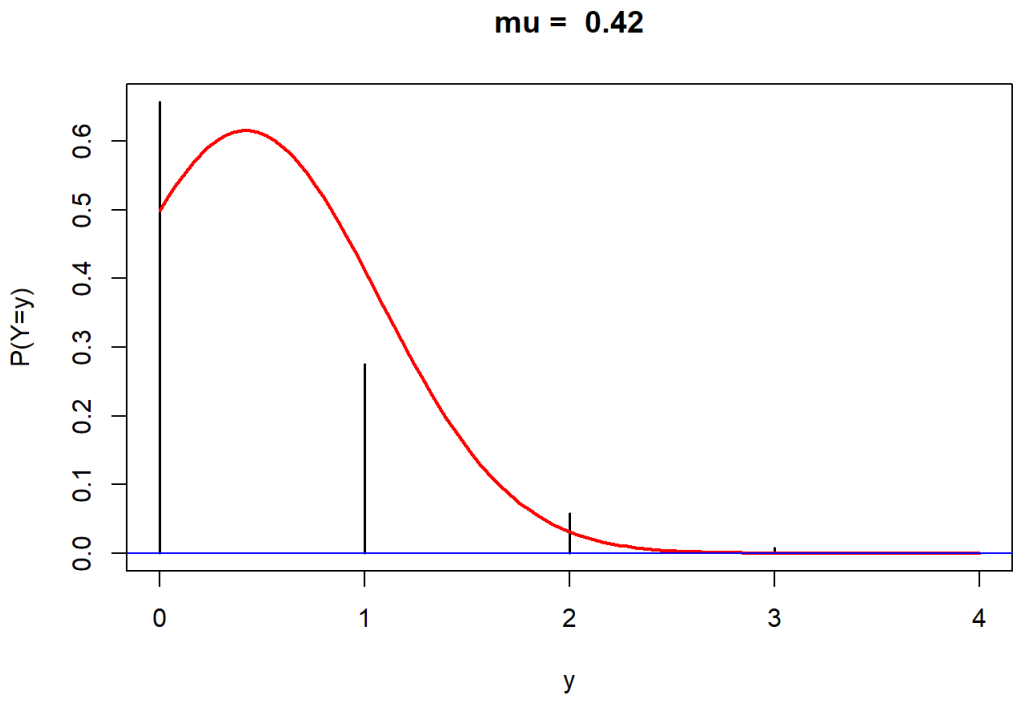
a.

```
(mu <- mean(storm$tornadoes))
```

```
## [1] 0.4202899
```

```
  lower <- max(0,round(x = mu - 4*sqrt(mu) + 0.5, digits = 0))
  upper <- round(x = mu + 4*sqrt(mu) + 0.5, digits = 0)

  save.po1 <- data.frame(y = c(lower:upper),
              prob = round(x = dpois(x = c(lower:upper), lambda = mu),
                           digits = 4))
plot(x = save.po1$y, y = save.po1$prob, type = "h", lwd=1.5,
       xlab = "y", ylab = "P(Y=y)", main=paste("mu = ",round(mu, 3)))
curve(expr = ((2*pi*mu)^(-1/2)) * exp(-(x-mu)^2/(2*mu)),
        from = lower, to = upper, add = TRUE, col="red", lwd=2)
  abline(h = 0, col = "blue")
```



Poisson doesn't seem like a good fit. There is a downward trend from observations, but it is not close enough to the way poisson distribution goes.