HW6.R

mwilde

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```
# HW 6
# Matt Wilde

# Problem 4f):
print(paste("P(lambda  < 0.5 | x0 = 4) =", pgamma(0.5, 5, 3)))
```

```
## [1] "P(lambda  < 0.5 | x0 = 4) = 0.0185759362221407"
```

```
print(paste("P(lambda  < 0.5 | x0 = 0) =", pgamma(0.5, 1, 3)))
```

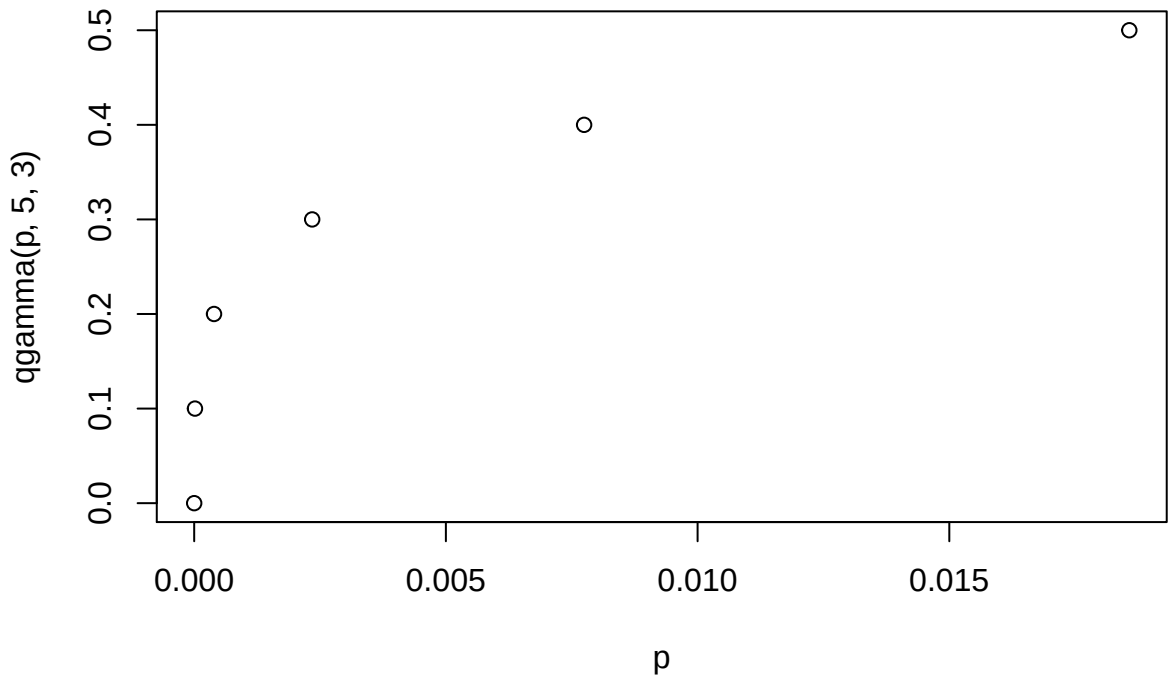
```
## [1] "P(lambda  < 0.5 | x0 = 0) = 0.77686983985157"
```

```
print(paste("P(lambda  < 0.5 | x0 = 0) from (d) =", 1 - exp(-3/2)))
```

```
## [1] "P(lambda  < 0.5 | x0 = 0) from (d) = 0.77686983985157"
```

```
# 4f
p = pgamma(0:5/10, 5, 3)

plot(p, qgamma(p, 5, 3))
```




```
med = qgamma(0.5, 5, 3)
low = qgamma(0.025, 5, 3)
high = qgamma(0.975, 5, 3)

# interval = quantile(qgamma(0.5, 5, 3), c(0.025, 0.975))

print(paste("posterior median = ", med))
```

```
## [1] "posterior median =  1.55696962759866"
```

```
print(paste("95% creditable interval: ", low, "-", high))
```

```
## [1] "95% creditable interval:  0.541162130039473 - 3.41386289180123"
```

```
# print(interval)



# Problem 5)
# a)
x = 0:25/100
f = (1/4 - x)^(-1/2)
plot(x, f, type = "o")
```