

Lab 06 PS – IT 24102279

```
1 # Q1: Hookworm treatment
2 # What distribushun is X?
3 # Its a binomyal with n=44 and p=0.92
4
5 # Chance of 40 kids cured?
6
7 dbinom(40, 44, 0.92)
8
9 # Chance of 35 or fewer cured?
10
11 pbinom(35, 44, 0.92, lower.tail = TRUE)
12
13 # Chance of 38 or more cured?
14
15 1 - pbinom(37, 44, 0.92, lower.tail = TRUE)
16
17 # Chance of 40 to 42 (includin both) cured?
18
19 dbinom(40, 44, 0.92) + dbinom(41, 44, 0.92) + dbinom(42, 44, 0.92)
20
21 # Q2: Baby births
22 # What is X?
23 # Number of babys born in a day
24
25 # What distrib is X?
26 # Its a Poisson with lambda=5
27
28 # Chance of 6 babys tomorrow?
29 # Use dpois for exact prob
30 dpois(6, 5)
31
32 # Chance of more than 6 babys?
33 # Use ppois with lower.tail=FALSE
34 1 - ppois(6, 5, lower.tail = TRUE)
35
36 # Q3: Learnin platform
37 # What distribushun is X?
38 # Binomyal with n=50 and p=0.85
39
40 # Chance of 47 or more passin?
41
42 1 - pbinom(46, 50, 0.85, lower.tail = TRUE)
43
44 # Q4: Call center
45 # What is X?
46 # Number of calls per hour
47
48 # What distribushun is X?
49 # Poisson with lambda=12
50
51 # Chance of exactly 15 calls?
52 # Use dpois for exact prob
53 dpois(15, 12)
54
55
```

Console

Terminal

Background Jobs

R - R 4.5.1 - /cloud/project/

```
> dbinom(40, 44, 0.92)
[1] 0.1979776
> pbinom(35, 44, 0.92, lower.tail = TRUE)
[1] 0.007252274
> 1 - pbinom(37, 44, 0.92, lower.tail = TRUE)
[1] 0.9412233
> dbinom(40, 44, 0.92) + dbinom(41, 44, 0.92) + dbinom(42, 44, 0.92)
[1] 0.6025556
> # Chance of 6 babys tomorrow?
> # Use dpois for exact prob
> dpois(6, 5)
[1] 0.1462228
> # Chance of more than 6 babys?
> # Use ppois with lower.tail=FALSE
> 1 - ppois(6, 5, lower.tail = TRUE)
[1] 0.2378165
> 1 - pbinom(46, 50, 0.85, lower.tail = TRUE)
[1] 0.04604658
> # Chance of exactly 15 calls?
> # Use dpois for exact prob
> dpois(15, 12)
[1] 0.07239112
>
> |
```