Lab 4 - Probability Solution

MATH224 - Intro to Stat

Exercise 1 (4 Points)

```
set.seed(12345) #1 Point Any seed is fine

coin_outcomes <- c("heads", "tails") #1 Point

sim_unfair_coin <- sample(coin_outcomes, size = 100, replace = TRUE,
                          prob = c(0.2, 0.8)) #1 Point

table(sim_unfair_coin) #1 Point
```

```
## sim_unfair_coin
## heads tails
##    20    80
```

Exercise 2 (4 Points)

```
pbinom(25, 35, 0.25)
```

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

```
# 1 Point for using pbinom
# 1 Point each for the right answers. There are 3 in pbinom.
```

Exercise 3 (5 Points)

```
1 - pbinom(9, 35, 0.25)
```

```
## [1] 0.3736763
```

```
# 1 Point for using pbinom
# 1 Point for subtracting from 1
# 1 Point each for the right answers. There are 3 in pbinom.
```

Exercise 4 (7 Points)

```r
pbinom(31, 35, 0.25) - pbinom(18, 35, 0.25)
```

```
## [1] 0.00019935
```

```r
# 1 Point for using pbinom
# 1 Point each for the right numbers. There are 6.
```