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PS_lab07

```r

#Exercise
#Q1) Uniform distribution
prob_q1 <- (25 - 10) / 40
prob_q1

#Q2 Exponential distribution
lambda <- 1/3
prob_q2 <- pexp(2, rate=lambda)   # P(X ≤ 2)
prob_q2

#Q3 i) Normal distribution - P(X > 130)
prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
prob_q3_i

#Q3 ii) Normal distribution - 95th percentile
q3_ii <- qnorm(0.95, mean=100, sd=15)
q3_ii

```

```
> prob_q1 <- (25 - 10) / 40
> prob_q1
[1] 0.375
> lambda <- 1/3
> prob_q2 <- pexp(2, rate=lambda)   # P(X ≤ 2)
> prob_q2
[1] 0.4865829
> prob_q3_i <- 1 - pnorm(130, mean=100, sd=15)
> prob_q3_i
[1] 0.02275013
> q3_ii <- qnorm(0.95, mean=100, sd=15)
> q3_ii
[1] 124.6728
>
```