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Faculty of Computing

Year 2 Semester 1 (2025)

IT2120 - Probability and Statistics Lab Sheet 09

1.

```
#Generate a Random sample of size 25 for the baking time
y <- rnorm(25, mean = 45, sd = 2)
print(y)
```

```
 [1] 43.12895 43.63191 45.08437 45.87251 45.57131 44.88261 43.04502 44.47674 47.58544 46.41746 43.45147 46.05584 48.25949
[14] 42.23909 43.68163 45.79925 47.77607 45.75755 47.83329 43.75288 43.05120 48.05775 42.25794 44.89562 45.81990
```

2.

```
#Test whether the average baking time is less than 46 minutes at a 5% level of significance
t.test(y, mu=46, alternative= "less")
```

```
        One Sample t-test

data:  y
t = -2.3364, df = 24, p-value = 0.01407
alternative hypothesis: true mean is less than 46
95 percent confidence interval:
     -Inf 45.76852
sample estimates:
mean of x
 45.13541
```