

STAT 312 Quiz 2

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Problem 1:

The time until recharge for a battery in a laptop computer under common conditions is normally distributed with a mean of 260 minutes and a standard deviation of 50 minutes.

a)

What is the probability that a battery lasts more than four hours? (2 points)

```
prob = pnorm(240, 260, 50)
1 - prob
```

```
## [1] 0.6554217
```

Ans: $P(4 \text{ hours or } 240 \text{ minutes}) = 0.655$

b)

What are the quartiles (the 25% and 75% values) of battery life? (4 points)

```
qnorm(.25, 260, 50)
```

```
## [1] 226.2755
```

```
qnorm(.75, 260, 50)
```

```
## [1] 293.7245
```

Ans:

$25\% = 226.3$ minutes or 3.77 hours

$75\% = 293.7$ minutes or 4.90 hours