

# Example 6.8 Correction

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## 1 Correction

When explaining Chapter 6 Example 6.8, I made two mistakes in Problem (d). Please see the corrections below.

1. The problem asked about "at least 820" and I mistakenly wrote  $P(X \leq 820)$ . Instead, it should be  $P(X \geq 820)$ .
2. When calculating the probability, I mistakenly used `qnorm()`, which should be used for calculating percentiles. We should instead use `pnorm()` to calculate the probability.

Example 6.8(d) Correction

In class (Wrong!)

$$\begin{aligned} P(X \leq 820) & \times \\ &= P\left(Z \leq \frac{820 - 1026}{209}\right) \\ &= \text{qnorm}\left(-\frac{206}{209}\right) \end{aligned}$$

⇓

Correction Version

$$\begin{aligned} P(X \geq 820) & \\ &= 1 - P(X < 820) \\ &= 1 - P\left(Z < \frac{820 - 1026}{209}\right) \\ &= 1 - \text{pnorm}\left(-\frac{206}{209}\right) \\ &= 0.8378 \end{aligned}$$

Figure 1: Example 6.8 (d) Correction

```
> 1 - pnorm(-206/209)
[1] 0.8378466
```