

#7 (#15, pg. 282)

$$\begin{aligned}
 P(\text{lifetime} \geq 900) &= P\left(Z \geq \frac{900 - 1000}{100}\right) \\
 &= P(Z \geq -1) = 1 - \Phi(-1) \\
 &= 1 - .1587 \\
 &= .8413
 \end{aligned}$$

Only 84%, not 95%, of bulbs last at least 900 hrs.

#8 (#21, pg. 283)

Viscosity is normal w/ $\mu = 37$, $\sigma = 10$

lowest viscosity > 90% of viscosities

90th percentile

$$\frac{V_{90} - 37}{10} = Z_{90} = 1.28$$

$$\begin{aligned}
 \therefore 90\text{th percentile } V_{90} &= 37 + 1.28(10) \\
 &= \underline{\underline{49.8}}
 \end{aligned}$$