

$$X \sim N(21.3, 1.7^2)$$

$$\begin{aligned} \text{a) } P(21 < X < 22) &= P\left(\frac{21-21.3}{1.7} < \frac{X-21.3}{1.7} < \frac{22-21.3}{1.7}\right) = \\ &P(-0.18 < Z < 0.41) = \Phi(0.41) - \Phi(-0.18) = 0.6591 - \\ &0.4286 = 0.2305 \end{aligned}$$

$$\begin{aligned} \text{b) } P(X > 23.1) &= 1 - P(X < 23.1) = 1 - P\left(\frac{X-21.3}{1.7} < \frac{23.1-21.3}{1.7}\right) = \\ &1 - P(Z < 1.06) = 1 - \Phi(1.06) = 0.1446 \end{aligned}$$

$$\begin{aligned} \text{c) } P(X < 25) &= P\left(\frac{X-21.3}{1.7} < \frac{25-21.3}{1.7}\right) = P(Z < 2.18) = \\ &\Phi(2.18) = 0.9854 \end{aligned}$$