$X \sim N(106.0, 6.0^2)$

a) $P(X < 100) = P\left(\frac{X-106.0}{6.0} < \frac{100-106.0}{6.0}\right) = P\left(Z < -1.0\right) = \Phi\left(-1.0\right) = 0.1587$

b) $P(109 < X < 112) = P\left(\frac{109-106.0}{6.0} < \frac{X-106.0}{6.0} < \frac{112-106.0}{6.0}\right) = P\left(0.5 < Z < 1.0\right) = \Phi\left(1.0\right) - \Phi\left(0.5\right) = 0.8413 - 0.6915 = 0.1498$

c) $P(X > 112) = 1 - P(X < 112) = 1 - P\left(\frac{X-106.0}{6.0} < \frac{112-106.0}{6.0}\right) = 1 - P\left(Z < 1.0\right) = 1 - \Phi\left(1.0\right) = 0.1587$