1. $\mu = 40, \sigma^2 = 5, n = 20$

$\mu_X = \mu = 40$

$\sigma_X = \frac{\sigma}{\sqrt{n}} = \frac{5}{\sqrt{20}} = 1.12$

2. $\mu = 70, \sigma = 2$

a) \text{CALC}

By HAND

$z = \frac{X - \mu}{\sigma}$

$z = \frac{69 - 70}{2}$

$z = \frac{-1}{2}$

$z = -0.5$

$NCDF(-E99, 69, 70, 2) = 0.3085$

b) \text{CALC}

By HAND

$z = \frac{X - \mu}{\sigma_X}$

$\mu_X = \mu = 70$

$\sigma_X = \frac{\sigma}{\sqrt{n}} = \frac{2}{\sqrt{18}} = .7071067812$

$z = \frac{69 - 70}{.7071067812}$

$z = 2$

$z = -1.41$

$NCDF(-E99, 69, 70, \frac{2}{\sqrt{18}}) = .0793$