50. $\mu = 10{,}000$ psi $\sigma = 500$ psi

a. $n = 40$

$$P(9{,}900 \le \overline{X} \le 10{,}200) \approx P\left(\frac{9{,}900 - 10{,}000}{500/\sqrt{40}} \le Z \le \frac{10{,}200 - 10{,}000}{500/\sqrt{40}}\right)$$

$= P(-1.26 \le Z \le 2.53)$

$= \Phi(2.53) - \Phi(-1.26)$

$= .9943 - .1038$

$= .8905$

b. According to the Rule of Thumb given in Section 5.4, n should be greater than 30 in order to apply the C.L.T., thus using the same procedure for n = 15 as was used for n = 40 would not be appropriate.