(3) 8-6

$n = 25 \quad \bar{x} = 148{,}000 \quad s = 62000$

HW8

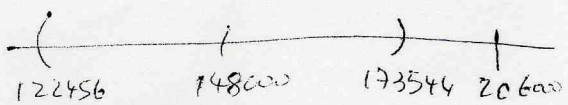
(a) use t

95% CI for $\mu = \bar{x} \pm t_{2.5\%, 24} \frac{s}{\sqrt{n}}$

$= 148000 \pm 2.06 \frac{62000}{\sqrt{25}}$

$= (122456, 173544)$

(b)



It is plausible.

(4) 8-8

$n = 5 \quad \bar{x} =$ [redacted] $\quad s$

(a) 95% CI for $\mu = \bar{x} \pm t_{2.5\%, 4} \frac{s}{\sqrt{n}} = \bar{x} \pm 2.78 \frac{s}{\sqrt{n}}$

(b) $\bar{x}_{50} =$ [redacted] $50\bar{x}$

95% CI $= \bar{x}_{50} \pm 50 \left[t_{2.5\%, 4} \frac{s}{\sqrt{n}} \right]$

(c) yes.

(d) yes. 950 out of 1000 contains true mean. so 50 out of 100 donot contain true mean.

(5)

(a) $n = 225 \quad \bar{x} = 3700 \quad s = 6000$

95% CI for $\mu = \bar{x} \pm z_{2.5\%} \frac{s}{\sqrt{n}} = \bar{x} \pm 1.96 \frac{s}{\sqrt{n}}$

(b) use t

95% CI for $\mu = \bar{x} \pm t_{2.5\%, 224} \frac{s}{\sqrt{n}} = \bar{x} \pm 1.97 \frac{s}{\sqrt{n}}$.