HW3
Adrian Law

1. $\mu = 3 \quad n = 40 \quad \alpha = 0.04$

   a.

   $$0.4 = 2.05\ \frac{\sigma}{\sqrt{40}}$$

   $$0.19512 = \frac{\sigma}{\sqrt{40}}$$

   $$1.23406 = \sigma$$

   b.

   $$Z = 2.57$$

   $$0.501462 = 2.57\frac{1.23406}{\sqrt{40}}$$

   $$99\%\ Confidence\ Interval = 3 \pm 0.501464$$

   c.

   $$0.1 = 2.05\ \frac{1.23406}{\sqrt{n}}$$

   $$0.04878 = \frac{1.23406}{\sqrt{n}}$$

   $$25.29823 = \sqrt{n}$$

   $$640.0004 = n$$

   $Sample\ size\ should\ be\ at\ least\ 641.$