

Solutions

Sampling and Proportions Worksheet Solutions

1. $\frac{38}{9522} = 0.004$
 2. $0.004 \times 3,000,000 = 12,000$
 3. $\frac{8.82}{1000} \times 3,000,000 = 26,460$
 4. $26,460 \times \frac{102}{365} \approx 7394$
 5. $12,000 - 7394 = 4606$
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Confidence Intervals Worksheet Solutions

6. Lower bound: $4600 - 3853 = 747$; Upper bound: $4600 + 3853 = 8453$
7. $1.96 \times 1966 = 3853.36$
8. Margin of error: $1.645 \times 1966 = 3234.07 \approx 3234$; Lower bound: $4600 - 3234 = 1366$; Upper bound: $4600 + 3234 = 7834$
9. $\frac{43}{9527} = 0.0045$; $0.0045 \times 3,000,000 = 13,500$; $13,500 - 7394 = 6106$ (7394 comes from Sampling and Proportions section #5); Lower bound: $6106 - 3853 = 2253$; Upper bound: $6106 + 3853 = 9959$

Using 1-PropZInt on a TI-84: Lower bound proportion: 0.00272, Upper bound proportion: 0.00526; Lower bound number: $0.00272 \times 3,000,000 = 8160$, Upper bound number: $0.00526 \times 3,000,000 = 15,780$; Lower bound difference: $8160 - 7394 = 766$, Upper bound difference: $15,780 - 7394 = 838$