

## 5.6 Foundations of Math II

$p, 274 \# 1-3, 5$

1. a) confidence level =  $\frac{19}{20} = 0.95 = 95\%$

b)  $81\% - 3.1\% = 77.9\%$

$81\% + 3.1\% = 84.1\%$

Confidence interval is 77.9% - 84.1%

c)  $33.5 \text{ million} \times 0.779 = 26.1 \text{ million}$

$33.5 \text{ million} \times 0.841 = 28.2 \text{ million}$

range of people is 26.1 million to 28.2 million

2. a)  $542 - 1.9 = 540.1 \text{ g}$  confidence interval is  
 $542 + 1.9 = 543.9 \text{ g}$  540.1g - 543.9g

b) Sample size correct margin of error

50

3.9g

100

2.7g

500

1.2g

The larger the sample is, the smaller the error is.

3. a) confidence level =  $\frac{9}{10} = 0.90 = 90\%$

b)  $64\% - 3.4\% = 60.6\%$

$64\% + 3.4\% = 67.4\%$

confidence interval is

60.6% - 67.4%

c)  $32 \times 0.606 = 19.392$

$32 \times 0.674 = 21.568$

19-22 students could expect better dental check ups

5. a)  $58\% - 3.1\% = 54.9\%$

$58\% + 3.1\% = 61.1\%$

confidence interval is

54.9% - 61.1%

b) Clearwater has about 2500 residents

$2500 \times 0.549 = 1372.5$

$2500 \times 0.611 = 1527.5$

between 1372 and 1528

residents would know.