## Assignment 3.3-part 1: p.106-107 #1, 5\*, 8\*

1. Which do you think has less variation: the IQ scores of students in your statistics class or the IQ scores of a simple random sample taken from the general population? Why?

5. Listed below are the earnings (in millions of dollars) of the celebrities with the 10 highest incomes in a recent year. The celebrities in order are Steven Spielberg, Howard Stern, George Lucas, Oprah Winfrey, Jerry Seinfeld, Tiger Woods, Dan Brown, Jerry Bruckheimer, J.K. Rowling, and Tom Cruise.

332 302 235 225 100 90 88 84 75 67

Use the given sample data to find the range, mean, and standard deviation (by hand using the first formula). If necessary, round your final answer to the nearest tenth.

range =

mean =

x	$(x - \overline{x})$	$(x - \overline{x})^2$
332		
302		
235		
225		
100		
90		
88		
84		
75		
67		
		$\sum (\mathbf{x} - \bar{\mathbf{x}})^2 =$

standard deviation = 
$$S = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}} =$$

Can this "Top 10" list be used to learn anything about the standard deviation of the annual earnings of all celebrities?

8. The National Highway Safety Administration conducted crash tests of child booster seats for cars. Listed below are results from those tests, with the measurements given in "hic," which is a measurement of a standard "head injury criterion" According to the safety requirement, the hic measurement should be less than 1000 hic.

774 649 1210 546 431 612

Use the given sample data to find the range, mean, and standard deviation (by hand using the second formula). If necessary, round your final answer to the nearest tenth.

range =

mean =

Х	x <sup>2</sup>
774	
649	
1210	
546	
431	
612	
$\sum x =$	$\sum (x^2) =$

standard deviation = 
$$S = \sqrt{\frac{n \sum (x^2) - (\sum x)^2}{n(n-1)}} =$$

Do the different child booster seats have much variation among their crash test measurements?