Practice Problem:

At the age of 42 Enrique Chavez was starting thinking more and more about retirement. After 17 *years* of running one of the bay area's tattoo parlor he decided to take on a partner - his 21 year old bilingual niece Diana. Her words still echoed in his head – the same words she repeated every time someone left his shop to go elsewhere: “Tio, debe ofrecer la perforacion del cuerpo” You should offer body piercing. “She would go on to say, Piercing gives people the opportunity to express their identity, just like a tattoo. She was right, of course. After she got her piercing certification, Diana came to work with Enrique full time, but she wouldn’t come cheaply. Between her salary and benefits, she was costing the business $1,000 per month! Enrique kept very detailed records, and her first month’s sales were a bit disappointing. Piercings were offered as category I II III and cost $35, $55, and $75 for stainless steel jewelry, respectively and $55, $85, and $120 for gold. Diana sold five category I, two category II, and three category III in stainless, and one each categories I, II, III in gold*.*
1.) Find the mean, median and mode for Diana's first month sales.

2.) Given the total sales value for Diana's first month, how long will it take for her to break even with her salary and benefits, assuming a 10 percent increase in sales value each month? Is the increase more likely to come from increased number of sales or a higher average sales value?

3.) Diana's second month results show that she made six sales at $35, two at $55, three $75, three at $85, and two at $120. Calculate the standard deviation for this data set. Does your answer for the standard deviation indicate that this is a normal distribution? If not, what are the implications??