1) Consider the data to the left which shows the total number of elementary schools in select states. Round to two places as needed

{219, 183, 115, 183, 101, 622, 237, 533, 321, 412}

a) (2 points) Find the mean of the data:

$\bar{x} = \frac{219+183+115+183+101+622+237+533+321+412}{10}$

$\bar{x} = 292.6$

b) (2 points) Find the median of the data:

$\frac{219+237}{2} = 228$

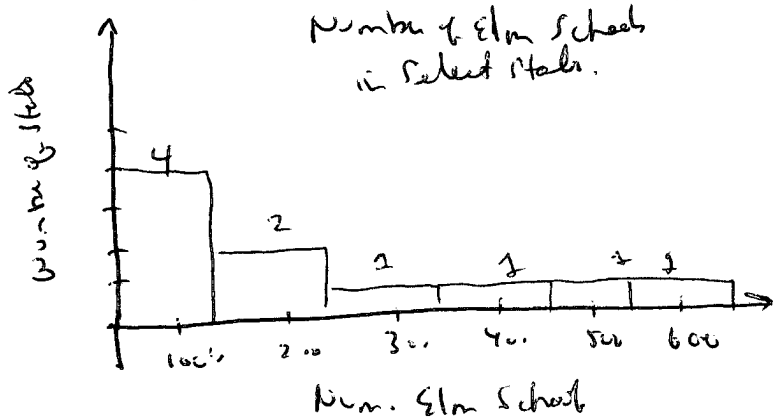
c) (2 points) Find the mode of the data:

183

d) (2 points) Find the range of the data:

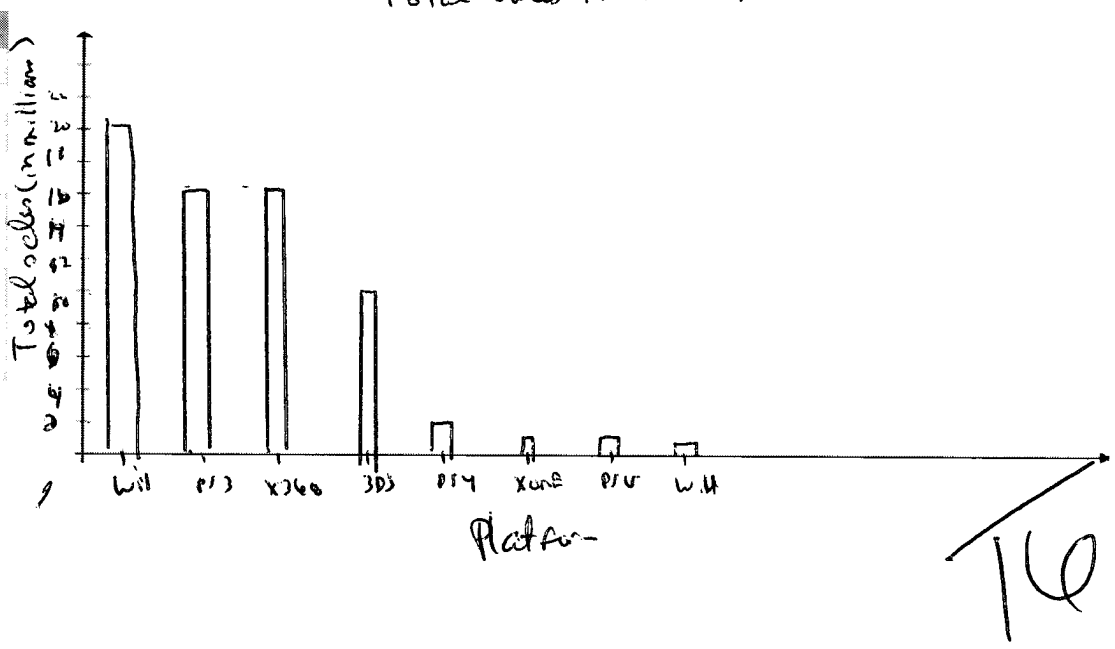
$622 - 101 = 521$

e) (4 pts) Draw and label a histogram. Use the classes 0 – 99, 100 – 199, and 200 – 299:



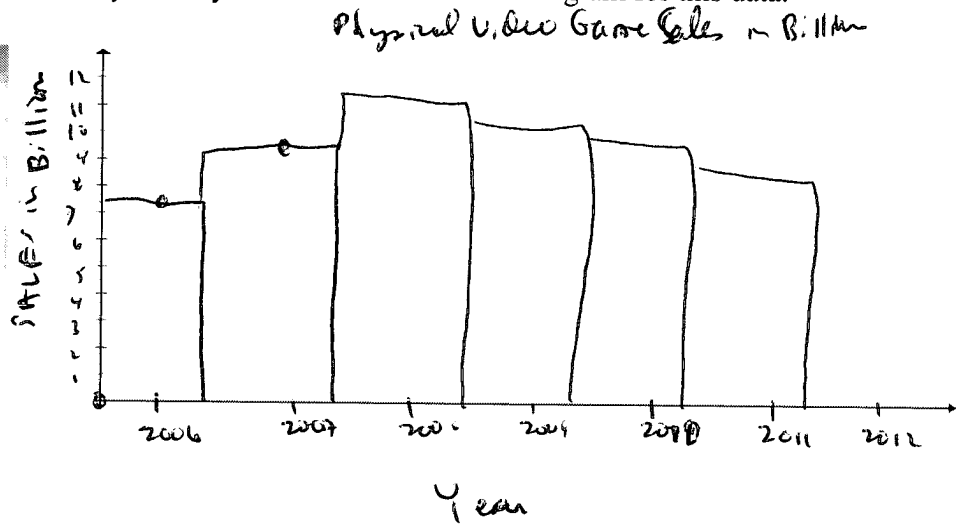
2) (4 points) The data below, from VGChartz.com, shows total sales of various video game devices through 2014. Draw and label a bar graph for the following data from most sold to least sold. Count your *y*-axis by 10,000,000.

Platform	Total
PS4	18,880,135
3DS	50,096,909
XOne	10,984,351
WiiU	8,912,202
PS3	84,928,078
PSV	10,868,472
X360	84,434,284
Wii	100,937,005
PSP	80,680,020



3) (4 points) The following data comes from Statista.com showing Physical Video Game Sales in Billions of Dollars. Count the y-axis by 1's. Draw and label a histogram for this data.

Year	Billions of Dollars
2006	7.3
2007	9.5
2008	11.7
2009	10.6
2010	10.1
2011	9.3



4) (4 points) Annabelle "Her?" Bluth is a student at Cuyahoga Community College Where Future Began.. In her Calculus XVII class, the instructor weights the grade. Given the weights and her grade in each category, compute her overall grade:

Type and Percent	Homework 10%	Quizzes 15%	Participation 5%	Projects 10%	Test Average 20%	Final 40%
A.B.'s Score	100%	97%	100%	82%	80%	85%

$$\frac{10\cdot 100+15\cdot 97+5\cdot 100+10\cdot 82+20\cdot 80+40\cdot 85}{10+15+5+10+20+40}$$

$= 87.75\%$

5) (4 points each) Suppose there are 2,000 people at a concert and the ages of the people are normally distributed with a mean of 45 years and a standard deviation of 8 years.

a) What **percent** of people are younger than 37 years?

$z = \frac{37-45}{8} = -1.00$ → 15.87% or 16%

Using 68/95/99.7% Rule

b) What **number** of people are older than 61 years?

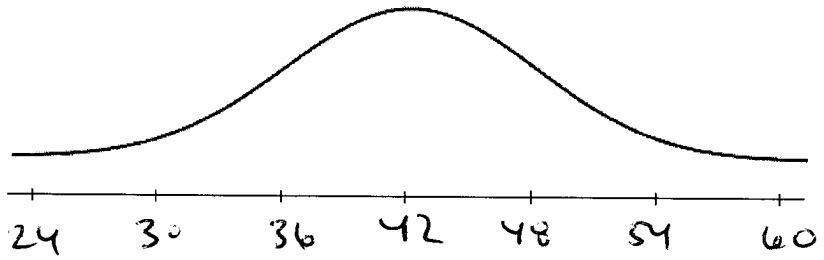
$2000 \cdot .1587 =$ About 317.4 people $\times$ 45.6

$2000 \cdot .16 = 320$ people $\times$ ~~50~~

10

6) The average age of people at an Air concert is 42 with a standard deviation of 6 years. Suppose that the ages of the attendees are normally distributed. Be sure to show all numbers used for parts $b - e$.

a) (2 points) Fill in the missing data values along the x-axis for a 68-95-99.7% chart:



For the remaining parts, find the percentage of people that are…

b) (3 points) Younger than 30:

0.15 + 2.35 = 2.5%

$z = \frac{30-42}{6} = -2.00$

2.28%

c) (3 points) Older than 48:

13.5 + 2.35 + 0.15 = 16%

$z = \frac{48-42}{6} = 1.00$

100 − 84.13 = 15.87%

d) (4 points) Younger than 40:

$z = \frac{40-42}{6} = -0.33$

37.07%

e) (4 points) Between 40 and 49?

$z = \frac{49-42}{6} = 1.17$

87.90 − 37.07%

50.83%

7) (3 points) When is it appropriate to use the 68-95-99.% Rule and when isn't it?

On a train with a crane!