321

101, 115, 183, 183, 219, 237, 412, 533, 622

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:

$\frac{219+183+115+\ldots+412}{10} = 292.6$

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

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

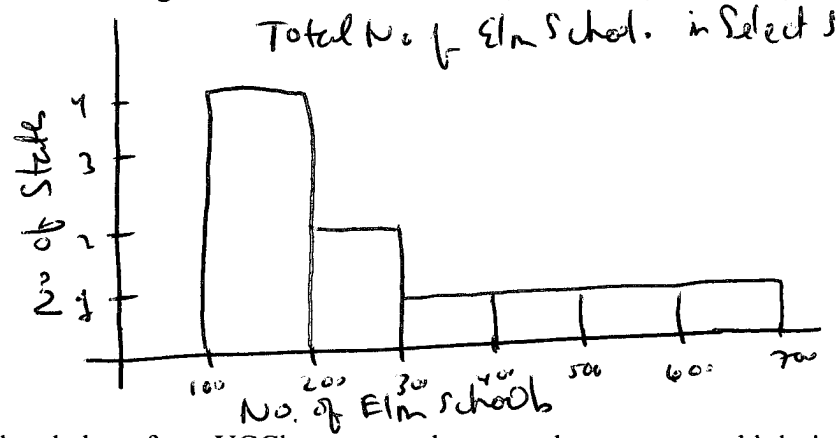
c) (2 points) Find the mode of the data:

183

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

$533 - 101 = 432$

e) (3 pts) Draw and label a histogram. Use the classes 0 – 99, 100 – 199, 200 – 299, and so on:

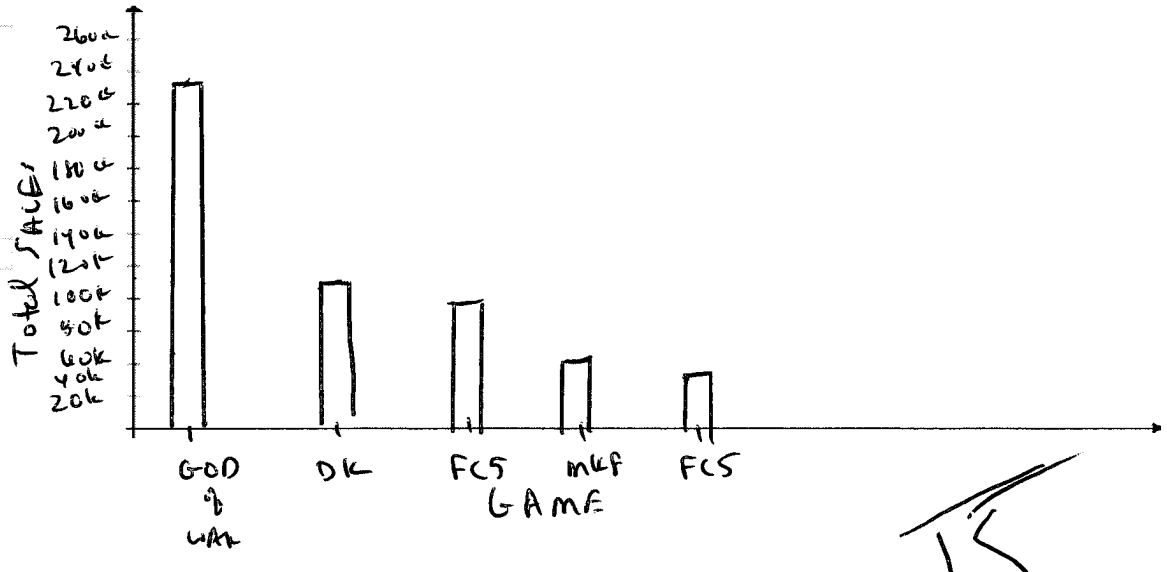


2) (4 points) The data below, from VGChartz.com, shows total top games sold during a week in June 2018. Draw and label a bar graph for the following data from most sold to least sold. Count the *y*-axis by 20,000.

Platform	Total
God of War	228,680
Donkey Kong Country: Tropical Freeze	112,474
Far Cry 5	100,264
Mario Kart 8 Deluxe	65,040
Far Cry 5	50,812

PS4 → Far Cry 5

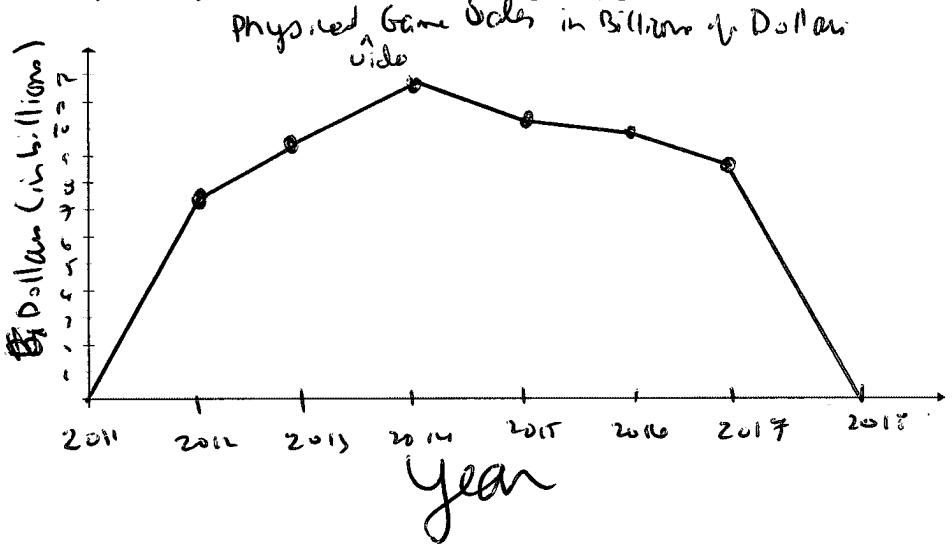
→ Xbox apps. my bad.



15

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 frequency polygon for this data.

Year	Billions of Dollars
2012	7.3
2013	9.5
2014	11.7
2015	10.6
2016	10.1
2017	9.3



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

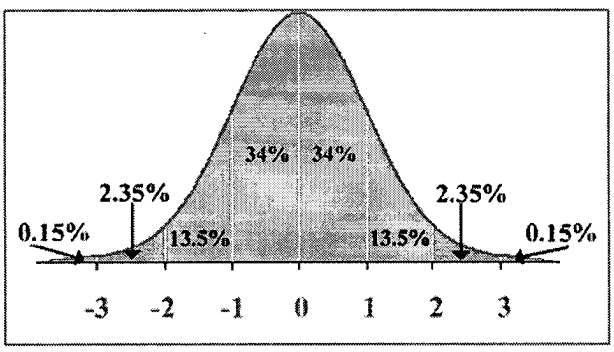
Type and Percent	Homework 10%	Quizzes 15%	Participation 5%	Projects 10%	Test Average 20%	Final 40%
A.B.'s Score	100%	82%	100%	67%	93%	84%

$$\frac{10\cdot 100 + 15\cdot 82 + 5\cdot 100 + 10\cdot 67 + 20\cdot 93 + 40\cdot 84}{100} = 86.2\%$$

5) (4 points each) Suppose there are 3,000 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?

$0.15 + 2.35 + 13.5\% = 16\%$



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

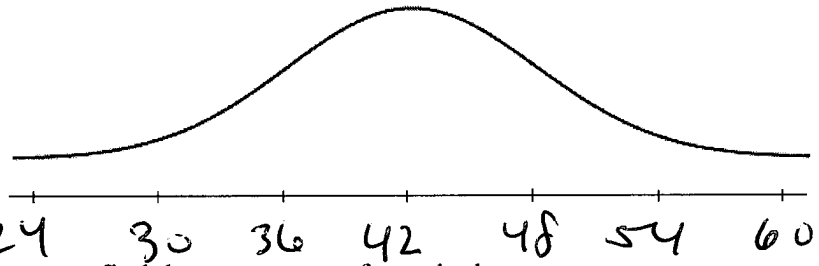
$2.35 + 0.15\% = 2.5\%$

$2.5\% \text{ of } 3000 = 75 \text{ people}$

T6

6) The average age of people at a Banco de Gaia 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:

Can use either 68-95-99.7% or z-score

$0.15 + 2.35\% = 2.5\%$

- or -

$z = \frac{30-42}{6} = -2 \Rightarrow 2.28\%$

c) (3 points) Older than 48:

$13.5 + 2.35 + 0.15 = 16\%$

- or -

$z = \frac{48-42}{6} = 1$

$100 - 84.13\% = 15.87\%$

d) (4 points) Younger than 41:

must use z-score

$z = \frac{41-42}{6} = -0.17$

43.25%

e) (4 points) Between 41 and 49?

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

$87.90 - 43.25\% = 44.65\%$

7) (2 points each) Short answer:

a) When should you use a histogram instead of a bar graph when graphically representing data?

Hmm

b) When is it not correct to use the 68-95-99.7% Rule?

MMMMMMH

29