

1) Consider the data below which represents the number ice cream flavors in select ice cream parlors. Round to two places as needed.

{12, 12, 18, 19, 22, 24, 25, 27, 28, 30, 32, 36}

a) (3 points) Find the mean of the data:

$$\bar{x} = \frac{12+12+18+\dots+36}{12} = \boxed{23.75}$$

b) (3 points) Find the median of the data:

$$\frac{24+25}{2} = \boxed{24.5}$$

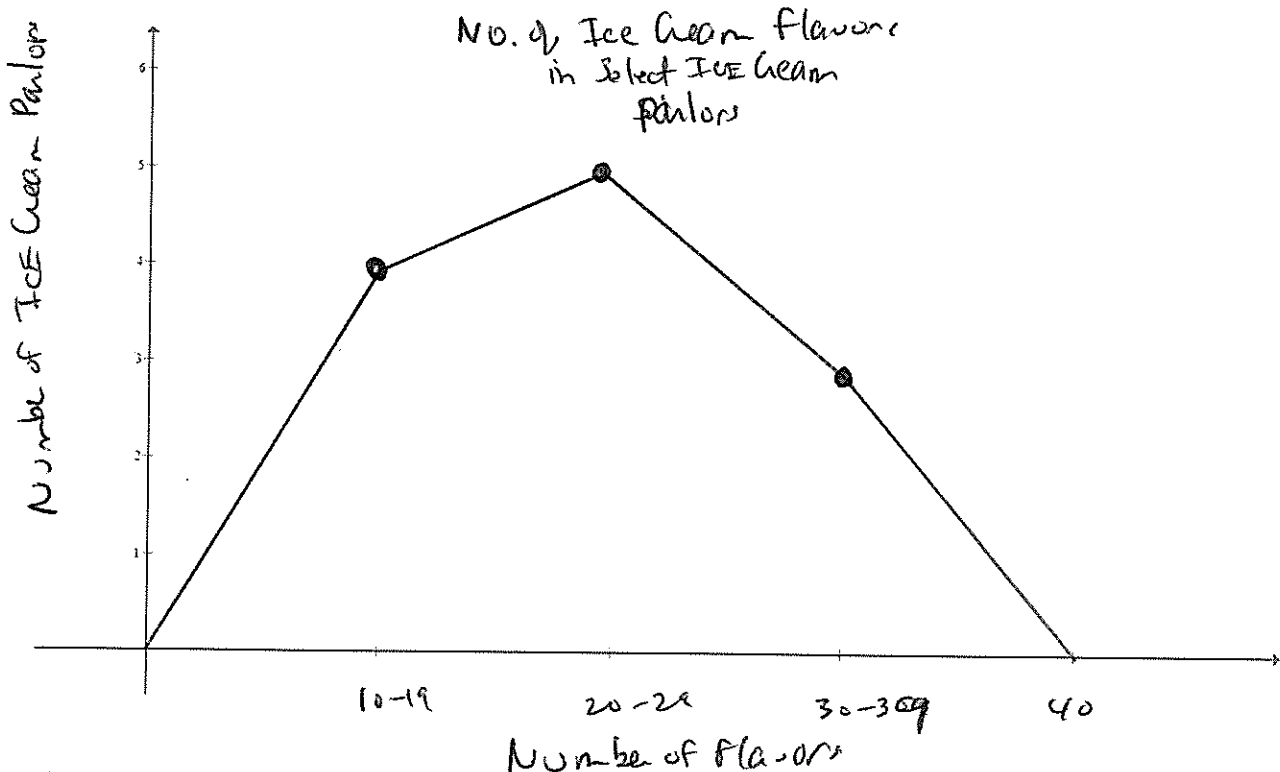
c) (3 points) Find the mode of the data:

$$\boxed{12}$$

d) (3 points) Find the range of the data:

$$36 - 12 = \boxed{24}$$

e) (6 points) Draw and label a frequency polygon using the classes 10 – 19, 20 – 29, and 30 – 39:



2) (2 points) Short Answer: Explain how to find the median of the set of numbers:

with a cherry on top

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3) (3 points) Annie Edison is taking 5 courses this semester:

Theoretical Phys Ed—5 credit hours—Grade: B Reading?—4 credit hour—Grade: A
 Studyology—4 credit hours—Grade: B Principles of Intermediate—2 credit hours—Grade: A
 Introduction to Basics—3 credit hours—Grade: C

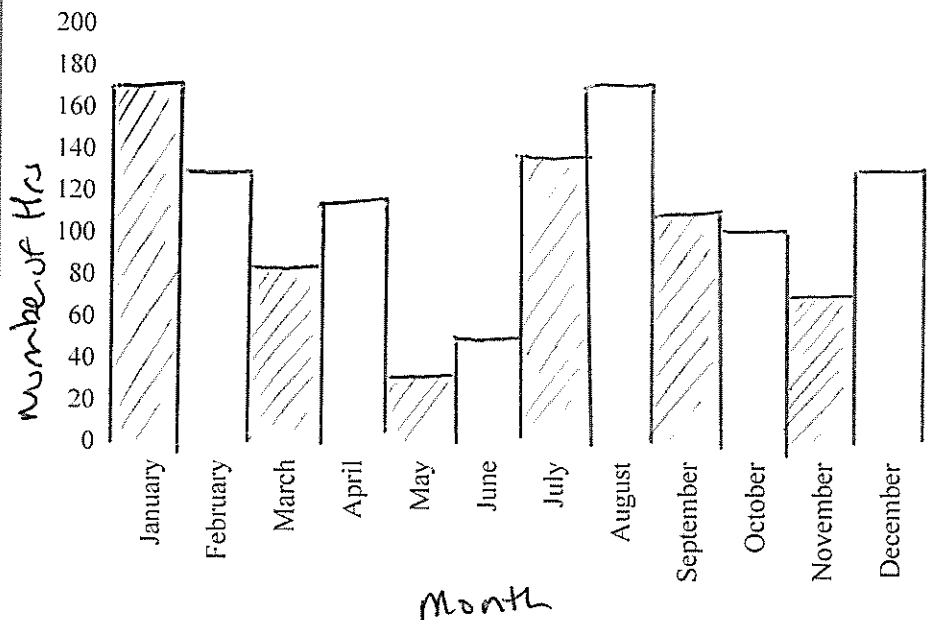
Assuming that a grade of an 'A' is worth 4 point, grade of a 'B' is worth 3 points, and a grade of a 'C' is worth 2 points, determine Annie's grade point average for the semester rounded to two decimal places:

$$\frac{5 \cdot 3 + 4 \cdot 4 + 4 \cdot 3 + 2 \cdot 4 + 3 \cdot 2}{5 + 4 + 4 + 2 + 3} = \boxed{3.17}$$

4) (6 points) The following chart shows Mike's PlayStation activity during 2018. (Yes, this is actual data—no judging! 😊) Draw and label a histogram representing the number of hours spent each month.

Number of Hours Played on PS, 2018

	GAMES	TROPHIES	HOURS
January	1	13	172
February	2	13	130
March	0	0	83
April	3	11	118
May	1	0	33
June	0	0	56
July	4	28	139
August	1	21	169
September	4	12	112
October	4	9	102
November	2	8	71
December	3	21	126



5) (3 points each) Suppose there are 23,000 students at a march and the ages of the people are normally distributed with a mean of 16 years and a standard deviation of 2.5 years.

a) What **percent** of students are younger than 11 years?

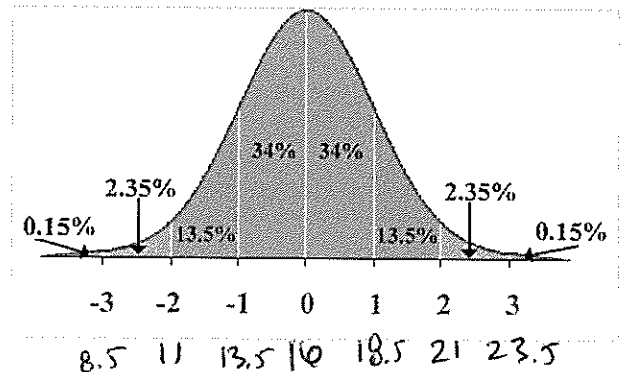
$$0.15 + 2.35\% = \boxed{2.5\%}$$

or 2.22% from z-chart.

b) What **number** of students are older than 23.5 years?

$$0.15\% \text{ of } 23000 = \boxed{34.5 \text{ people}}$$

or 29.9 people if we used the z-chart



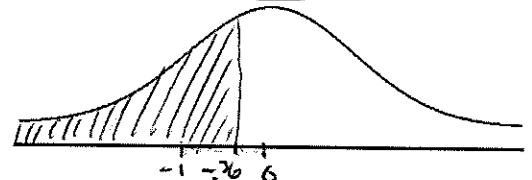
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15

6) (4 points each) The average high temperature during the first week of April in a select city is 72.3 degrees with a standard deviation of 3.6 degrees. Suppose a year is randomly picked. Determine the probability that the average high temperature during the first week of April of that year is in the ranges given below and also shade in the corresponding normal curve:

a) Less than 71 degrees?

$$z = \frac{71 - 72.3}{3.6} \approx -0.36$$

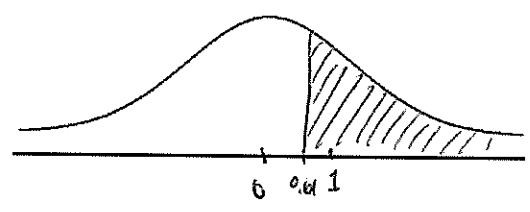
35.94%



b) At least 74.5 degrees?

$$z = \frac{74.5 - 72.3}{3.6} \approx 0.61$$

100 - 72.91% = 27.09%



c) Between 68 and 75 degrees?

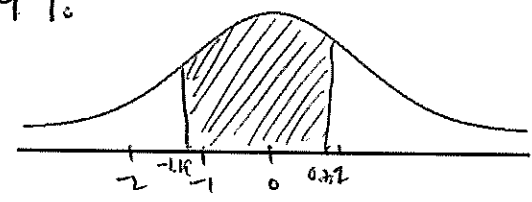
$$z = \frac{75 - 72.3}{3.6} = 0.75$$

77.34%

11.70%

$$z = \frac{68 - 72.3}{3.6} = -1.19$$

65.64%



7) (2 points each) Short answer:

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

In April

b) When are you not allowed to use the 68-95-99.7% Rule when computing percentages of a population within a normal distribution?

On Taco Tuesday

4/10