Analyzing Data

Name: _____

Is there a relationship between MYP 5 (Grade 10) results in math and preparedness for the DP SL math courses ?

To the right, you are given results in Grade 10 math vs. Semester Exam results in the SL Analysis and SL Applications courses.

a. Without analyzing, just looking at the data points, do you think that there is a relationship between G10 grades and DP exam results ?

b. Plot a scatterplot for the bivariate data set.

Average of G10 MYP Criterion Grades	DP Semester 1 Exam (%)
1.5	17
2.1	25
2.2	31
3.4	35
4.3	47
2.7	48
5.5	52
3.6	54
3.5	57
4.9	58
3.5	63
2.6	65
3.2	71
5.4	72
4.8	76
3.7	85
5.8	88
5.5	95

c. Approximate a line of best fit.   Does the scatterplot support what you wrote above?
Now, analyze each data set separately.

d. Use your GDC to find the basic 1-variable statistics for *each* variable.

$$\text{MYP 10 Grade} \qquad \text{DP Semester 1 Exam}$$
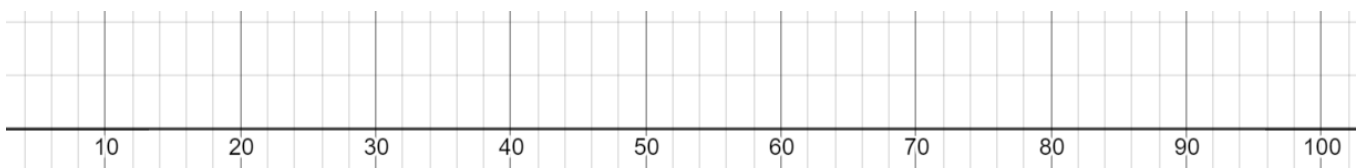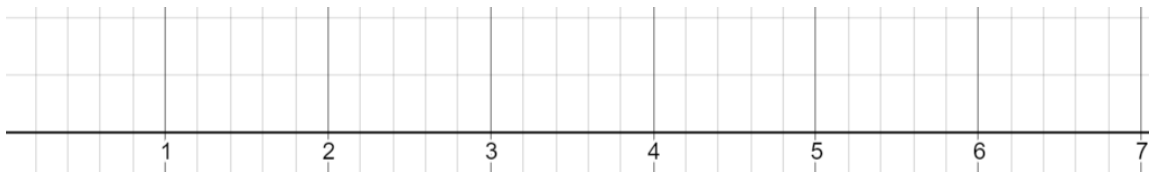
mean:
Q1:
Q2 (median):
Q3:
range:
IQR:
standard dev:
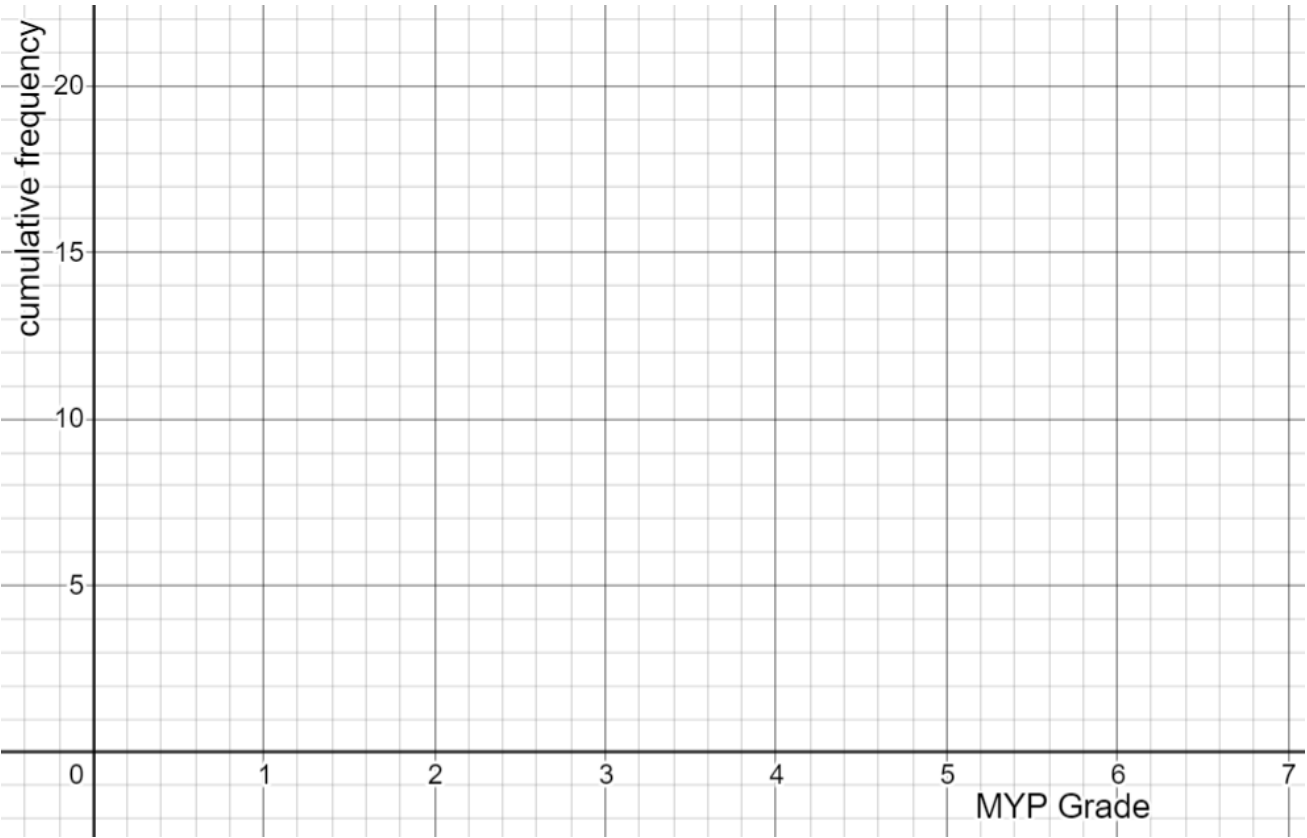
e. Calculate for any outliers in each data set.

f. Plot a box plot for each data set. Comment on what this tells us about each data set.

e. Complete each frequency table for each data set.

MYP Grade	Frequency
$0 \le G < 1$	

DP Exam Result	Frequency
$10 \le E < 25$	

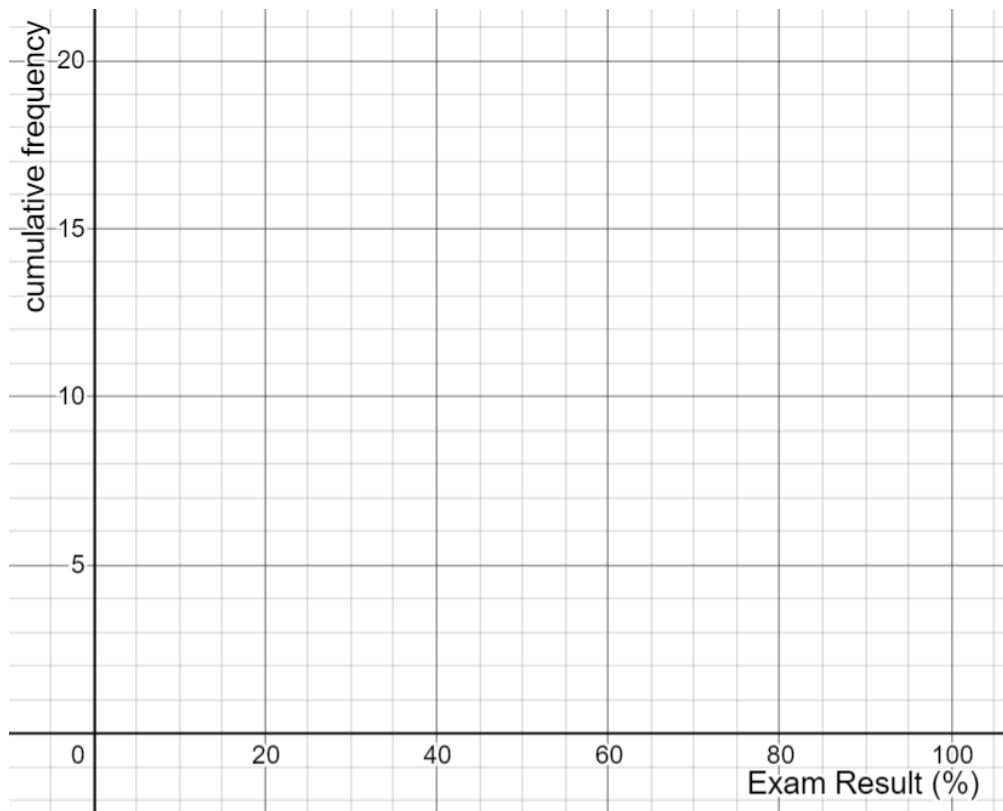f. Plot a cumulative frequency curve for MYP grades.

g. Use the curve to find approximations for the quartiles.
   Are these approximations close the actual calculated quartile values?

h. Use the curve to answer:

How many students earned 4 or above?   What is the 70th percentile result?
What percentile is this?

i. Plot a cumulative frequency curve for DP semester exam results.

j. Use the curve to find approximations for the quartiles.
   Are these approximations close the actual calculated quartile values?

k. Use the curve to answer:

How many students scored   What is the 80% percentile exam result?
below 50% on the exam?
What percentile is this?

l. What conclusions can you make from all the analysis and presentation of data that you did here?