# WEEKLY ALGEBRA i ASSIGNMENT - STATISTICS 

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#### Abstract

The attached is a sample of weekly assignments that were used in the fourth quarter of the academic year, which started in the 6th week of learning remotely. New weekly assignments were distributed to students every Monday via email and in Google Classroom classes. The goal of these assignments was to encourage students to engage in the Algebra 1 course and to take ownership of acquiring the skills taught in this quarter. The vast majority of our 140 students were highly engaged and eager to acquire the assigned skills. The assignments were supplemented with Daily Zoom video classes during which concepts were explained and students asked questions. The assignments assured us that students acquired Algebra 1 skills and we observed that they were very enthusiastic about solving problems in IXL. The assignments made us proud of the hard work and dedication of our students to learning mathematics. Our student engagement level reached $95 \%$.


## Algebra 1

Students work with linear, quadratic, and exponential functions, as well as systems of linear equations, inequalities and statistics. They build their skills in modeling and problem-solving strategies. Students make connections with real-world issues.

## Practical and pedagogical value

There were two important goals and they were achieved: a) to ensure continued student engagement in learning mathematics on a daily and weekly basis, and b) to give students ownership of their own learning by letting them solve problems in an online platform. we challenged our students to go beyond what was required in the assignments and many rose
to the challenge. Students answered close to 50,000 Algebra 1 questions during the remote learning period, including 30,000 in the 4th quarter alone. In the last day of the quarter students answered approximately 4,000 questions bringing the total questions answered for the 2019-2020 academic year to about 83,000. In the process, they made progress in 400 Algebra 1 skills. Both IXL and Google Classrooms enabled teachers to monitor the work and progress of each student on a daily basis, and we followed up with contacting the student or family to encourage them when we saw a need to do so.

We used the online platform IXL and Google Classroom in addition to email and Zoom. Students could solve IXL problems on a variety of devices including cell phones, tablets, and laptops. This made IXL very popular among students and accessible to them. Students solve problems in IXL to master specific skills. Mastering a skill means obtaining a "smart score" of at least $80 \%$ when answering related questions. The platform is adaptive and does not advance a student until he/she demonstrates that they have mastered the skill. We used Google Classroom as a repository of reference material for students including sections from the textbook that they could read on their own, weekly assignments, and notes from Zoom video classes. We used Zoom for daily classes that were well attended by students. Last but not least we used email to communicate with students and parents and created distribution lists that enabled us to send mass mailings to all students or all parents. We found that parent involvement was critical in the success of students.

## The assignment

The assignment consists of two components: a) demonstration of mastery of 4 skills in Statistics by solving problems using IXL online platform and obtaining a score of $80 \%$ or more, and b) demonstrating class engagement by choosing at least two activities such as participating in daily Zoom video classes, submitting weekly Class Engagement Reports in Google Classrooms, solving problems from textbook, writing a summary of what they learned or of videos they watched.

## Plan for Week 2 of Term 4:

In the first two weeks of Term 4 we will focus on Statistics and Data Analysis. Both Mr. Morden and Dr. Hany worked on this topic in the past 2 weeks.

The new assignments for this week are listed below.

## Topics for the Week:

## Reference: Module 4 from Textbook: Describing Distributions

## Topic 1-One Variable Statistics.

## Topic 2 - Two Variable Statistics.

Please also join daily video meetings or review Video Meeting Notes, Video Meeting Recording Links, or section "IXL Q \& A" in Google Classroom.

Homework in Term 4 is divided between work in IXL and "Class Engagement". Details are provided below. Keep up the good work and let Dr Hany know if you find any problems challenging.

Remember that you are not expected to solve anything on your own if you need help. You should contact Dr. Hany if you have any difficulties.

## High-Level Plan for Week of 5/4/2020 to 5/10/2020

## 1) Daily Lesson Plans:

| Day | Topic | Textbook Reference |
| :--- | :--- | :--- |
| Monday 5/4/2020 | Scatter Plots and Outliers | Module 4 Topic 1 |
| Tuesday 5/5/2020 | Linear Regression | Module 1 Topic 3 |
| Wednesday 5/6/2020 | Correlation Coefficients | Module 1 Topic 3 |
| Thursday 5/7/2020 | 2-Variable Statistics | Module 4 Topic 2 |
| Friday 5/8/2020 | 2-Variable Distributions | Module 4 Topic 2 |

2) IXL Skills to Master (achieve SmartScore of at Least $80 \%$ ):

| Day/Date | Assignment (IXL Skill Reference or Code) |
| :--- | :--- |
| May 10, 2020 | 8BS (KK.8 Interpret a scatter plot) |
|  | EG5 (KK.9 Outliers in scatter plots) |
|  | FQ7 (KK.10 Match correlation coefficients to <br> scatter plots) |
|  | E8T (KK.11 Calculate correlation coefficients) |

## 3) Class Engagement:

Engagement in the class by participating in at least two activities per week. Your choice of:
2.1) Attending 2 Zoom Video meetings.
2.2) Watching 2 recorded Zoom video meetings and writing a report in Google Classroom.
2.3) Watching alternate videos on the same topics we are studying (for example Khan Academy) and writing a report on each video via Google Classroom.
2.4) Emailing or calling Dr Hany with a question or concern.
2.5) Other activities can be discussed with Dr Hany.

