Learning Works Charter School

Integrated Math IB
Module 7

Student Name: _____ Teacher Name: _____

As you work through the chapters in your Integrated Math 1 course, you will be encouraged to think and to make conjectures while you persevere through challenging problems and exercises. You will make errors – and that's okay! Learning and understanding occur when you make errors and push through mental roadblocks to comprehend and solve new and challenging problems.

Text: *Integrated Math I,* Big Ideas, 2016

To ensure you are learning, you must show your work for all exercises.
YOU WILL NOT EARN CREDIT FOR ANSWERS WITHOUT WORK.

Chapter 7: Data Analysis and Displays (7.1-7.5)

_____ Maintaining Mathematical Proficiency (page 329): Complete exercises #1-3 **all**

_____ 7.1 Measures of Center and Variation: Read the lesson and complete exercises
#3, 5, 6, 11, 13, 15, 18, 19, 29, 40, 43, 44, 45, 46

_____ 7.2 Box-and-Whisker Plots: Read the lesson and complete exercises
#3-9 **all**, 15, 18, 24, 25, 26

_____ 7.3 Shapes of Distribution: Read the lesson and complete exercises
#1, 2, 3, 4, 7, 8, 11, 22

_____ 7.4 Two-Way Tables: Read the lesson and complete exercises
#5-9 **all**, 13, 14, 21, 33, 34

_____ 7.5 Choosing a Data Display: Read the lesson and complete exercises
#3, 4, 5, 7, 8, 9, 11, 29

Students must complete the Chapter Review with a teacher or tutor at school.

_____ Chapter Review (pages 370-372): Complete exercises #1-11 **all**

Chapter 8: Basics of Geometry (8.1-8.6)

_____ Maintaining Mathematical Proficiency (page 377): Complete exercises #1-12 **all**

_____ 8.1 Points, Lines, and Planes: Read the lesson and complete exercises
#1, 3-7 **all**, 10-14 **all**, 17, 18, 19, 24, 26, 39, 40, 69, 70, 71, 72

_____ 8.2 Measuring and Constructing Segments: Read the lesson and complete exercises
#1, 9, 10, 15, 17, 19, 20, 25, 26, 38-45 **all**

_____ 8.3 Using Midpoint and Distance Formulas: Read the lesson and complete exercises
#1, 3, 5, 7, 8, 15, 16, 17, 19, 23, 24, 31, 46, 47, 48

_____ 8.4 Perimeter and Area in the Coordinate Plane: Read the lesson and complete exercises
#1, 3, 4, 5, 6, 9, 15, 23, 36, 37, 38, 39

Continued on next page

_____ 8.5 Measuring and Constructing Angles: Read the lesson and complete exercises #1, 3, 7, 9, 10, 11, 12, 21, 22, 24, 25, 33, 34, 37, 41, 58, 59, 60, 61

_____ 8.6 Describing Pairs of Angles: Read the lesson and complete exercises #1, 3-7 all, 9, 19, 25, 26

Students must complete the Chapter Review and Project with a teacher or tutor at school.

_____ Chapter Review (pages 432-434): Complete exercises #1-21 **all**

_____ Complete the attached Project **(No project = No credit)**

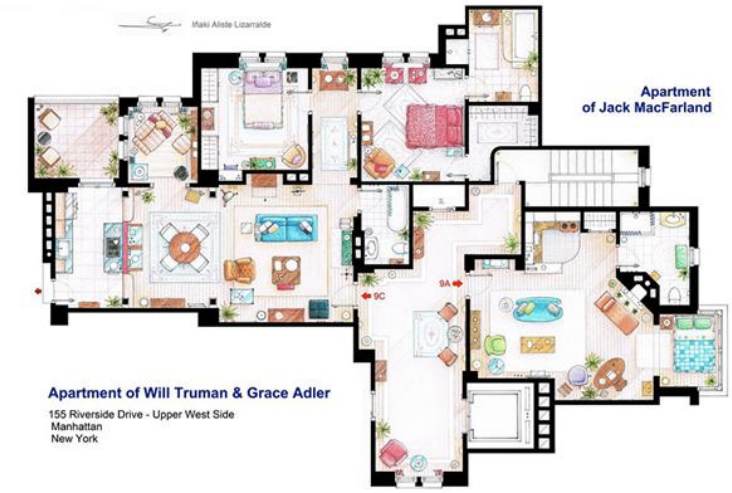
A teacher or tutor reviewed the Chapter Reviews and Project with the student.

Date: _____ Signature: _____

Grade

Integrated Math 1 Project
Module 7: Basics of Geometry
Textbook Pages 377-436

Designing Your Dream House



1. CUT OUT at least seven rectangles and squares from a piece of graph paper. Choose a variety of shapes.

2. Each square on the graph paper is one unit by one unit, or one unit squared. Find the area and perimeter of each shape. Write them on the shapes. Then completely shade in each shape with a colored pencil. (This will help you see each room clearly when you are designing the house.)

3. Get a piece of graph paper. You will be using your shapes to design the floor plan for your "dream" house. Begin to lay out your shapes so they resemble the scale drawing of a floor plan. Think about which room each shape represents.

    a. Which room is the biggest?

    b. Which room is the smallest?

    c. How do the rooms connect to each other?

    d. Is your layout logical?

e. When you are satisfied with your layout, glue your shapes to the graph paper. Use a marker to outline the entire house. Label each room.

4. Calculate the **total area** of your scale drawing and write it on the line below.

_____ square units

Describe what you did to calculate the area:

_____

_____

5. Calculate the **total perimeter and write it on the line below**.

_____ units

Describe what you did to calculate the perimeter:

_____

_____

6. You want to add rain gutters around the perimeter of the house. This will cost about $3.75/foot. However, the perimeter of your floor plan is not the same as the perimeter of a real house. (Right? This one is tiny!) For this reason, you will have to multiply your perimeter by what is called a *linear scale factor* to find how many feet of gutters you will actually need. For your house you will use a ***linear scale factor*** of 3 feet per unit, which means that every linear unit in your floor plan represents 3 feet in your actual house.

Perimeter of your floor plan _____ X 3

Total perimeter of your house = _____ feet.

7. Remember, perimeter is measured in linear units. What will be the total cost for the gutters? (Show your work below)

Total cost: _____

8. You need to choose flooring for the kitchen, living room and bedrooms in your house. First use a scale factor to determine the areas of those rooms in your actual house. Your scale factor for area will just be the linear scale factor ***squared,*** because area is measured in square feet. In other words, $3^2 = 9$, so **multiply** the *area* of each of your rooms by 9.

Area of kitchen _____ square feet

Area of living room _____ square feet

Area of bedrooms _____ square feet

9. Research floors for the kitchen, living room and bedrooms. (Find three different kinds of flooring, such as carpet, hardwood, etc.) Record your research and prices below. Homedepot.com is an excellent resource for this research. Calculate how much it will cost to cover each room with the type of flooring you chose. What will be the total cost for your floors? (Show your work!)

Total cost for floors: _____