



WILLIAMSBURG HIGH SCHOOL FOR ARCHITECTURE AND DESIGN

Name: Mr. Hunter

Date: November 26th, 2018

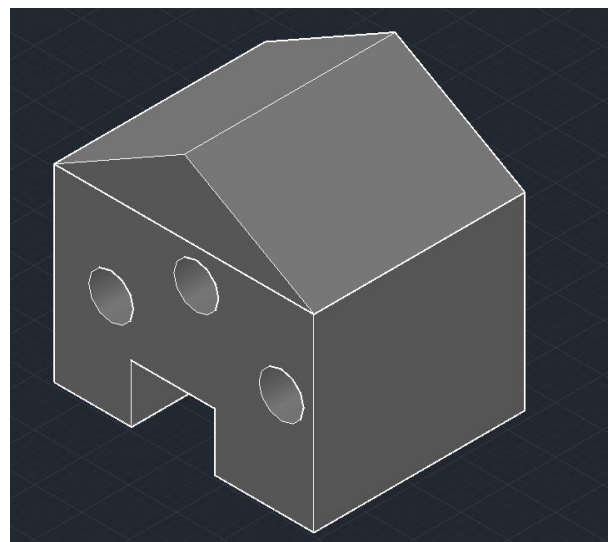
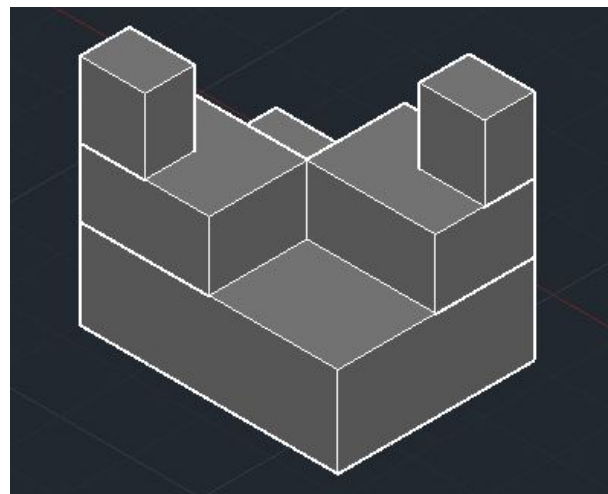
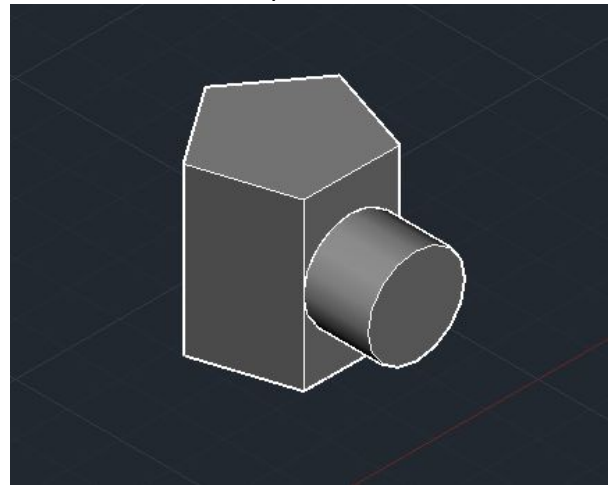
Advanced AutoCAD

Component	Description and time allotment
Aim #39 (Investigation)	How can we conceptualize stairs in AutoCAD?
Standards	<p>HSG-COA.A.2 Experiment with transformations in the plane Represent transformations in the plane using e.g. transparencies and geometry software</p> <p>HSG-MG.A.1 Apply geometric concepts in modelling situations use geometric shapes, their measures and their properties to describe an object</p>
Objectives	<p><u>SWBAT</u></p> <ul style="list-style-type: none"> • Create 3D stairs for our villas. • Design landings for their stairs • Create a typical straight staircase
Motivation	Students will volunteer in groups of 2 while one tries to describe the 3D object and the

Gill Cornell, Principal
257 North Sixth Street Brooklyn New York 11211 718-388-1260 Fax 718-486-2580
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other student attempts to draw it.



Do Now (optional)	In autocad draw a staircase in floor plan view with 10 steps. Each step must be 3' wide and have a tread of 11". Have a student come to the computer and draw the floor plan stairs for the class to see.
Launch of Lesson/Mini Lesson	<p>Switch to AutoCAD and use the volunteer students floor plan stair as a guide.</p> <ol style="list-style-type: none"> 1. Switch to an isometric view and draw a straight line into the z axis in the direction you want your stairs to go up in. 2. Use the DDTYPE command to change the point orientation so that it is more visible when you use the Divide command. 3. Turn on Node snap and use the Divide command to split the line into the amount of stairs/ levels you want to have. 4. After the line is split into the multiple parts, you can presspull each step to its given point. 5. Lastly use the union command and combine all the steps into one 3D stair.
Summary	Create a Straight Staircase with 16 steps. Each step must be 3' wide with a 11" tread. Each riser must be 7.5". Include a 4'x 3' landing in the middle of the stairs.
Immediate Application	Students will resume working on their floor plan openings. If they would like to put a straight staircase in their home they may do so after the summary is completed.