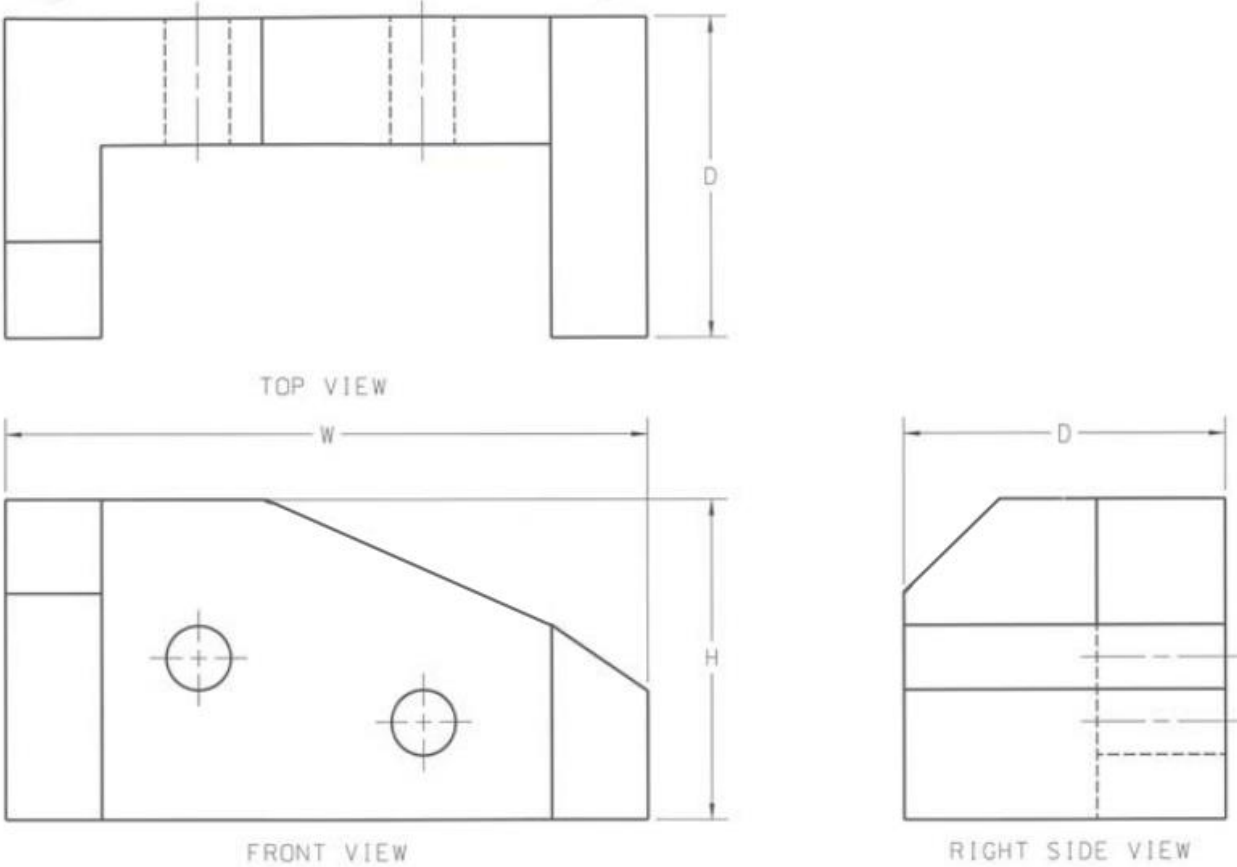


# Unit 1.2 Exam Introduction to Design Study Guide V1.1

Use only the conversions found on the official PLTW engineering formula sheet

- 1. Hand draw this item in isometric. You can measure the dimensions using a ruler off of your screen.



- 2. Draw what the following lines look like and explain what they do: construction lines, object line, hidden line, centerline, center mark, extension line, dimension line, leader line

3. Describe or draw what the following look like and how to dimension them: chamfers, fillets, rounds, angles, circles, arcs

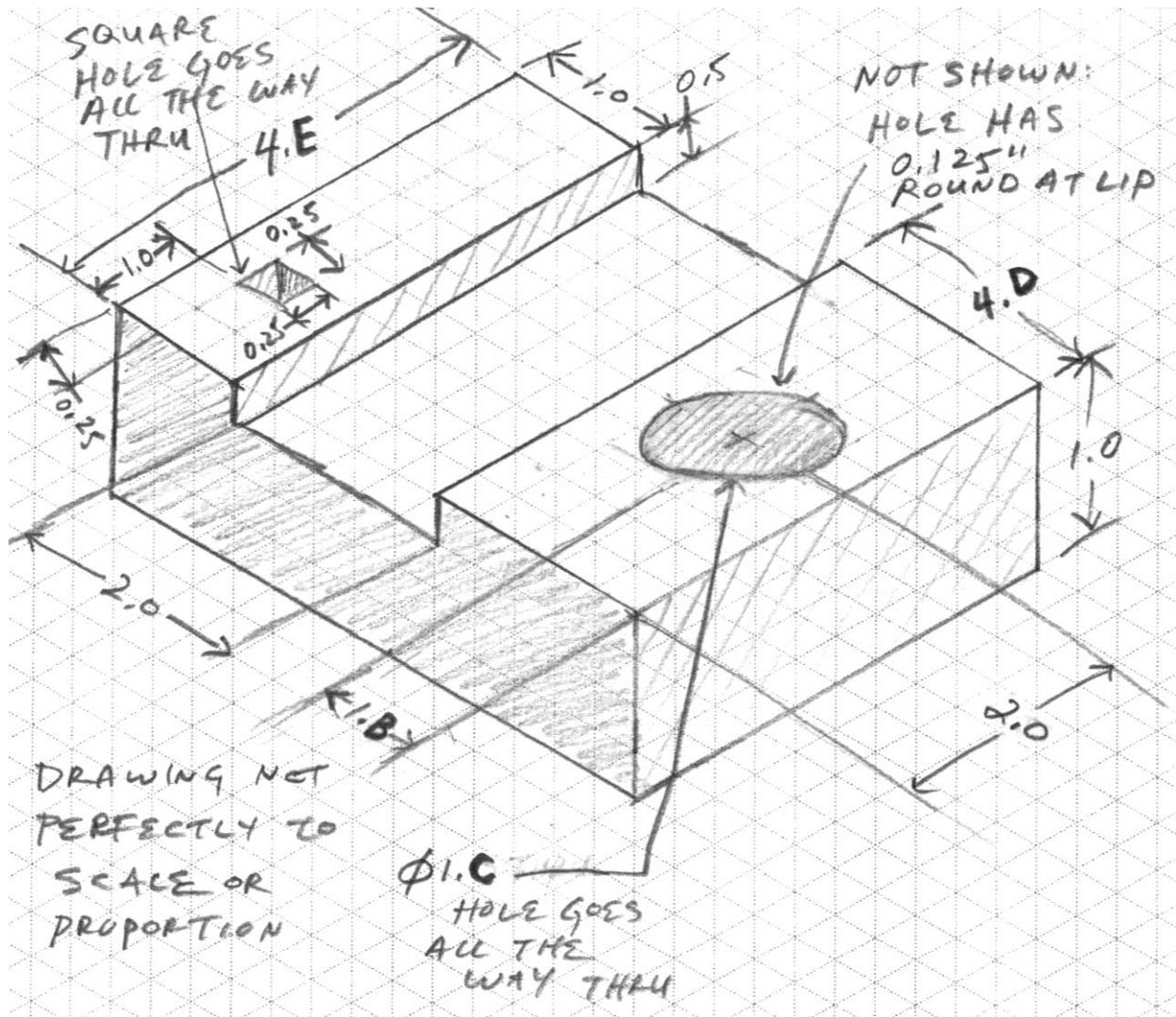
4. What goes in each section of a regular title block?



Write each digit of your STUDENT ID in their own box below:					
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>

Substitute the digits of your STUDENT ID with the corresponding letter when you see it in the drawings below. For example if your STUDENT ID number is 305734, and you see 1.B in the chart below, then the number is 1.0 since 0 corresponds to B. Likewise, if you see 1.C, then the number is 1.5 since 5 corresponds to C.

5. The corporation, Carne Carne Carne, produces a plant-based substitute meat product called the “I Can’t Believe It’s Not Steak” steak. They have hired you to ensure that the factory assembly line is making the right sized steaks. After discovering that the steaks are being improperly formed, you figure out that there is a single part called the “Carne Squisher” at fault. You quickly sketch out what the replacement “Carne Squisher” part needs to be.



In Fusion360, 3D model this part and create a properly formatted and dimensioned multi-view drawing with a proper title block. You might need to correct or add text in order to make it a proper title block. Make sure you properly insert the corresponding digits in the dimensions with a letter in it. The sketch may not be properly scaled or proportioned so your final 3D model may or may not perfectly match the sketch.

- After replacing the part, the assembly line started to make the right sized steaks for a few hours. Everything seemed right until a pin that fits into the part above, snapped in two. You stop the assembly line and set out to fabricate the broken pin.

In Fusion360, 3D model this pin but you must use the revolve and chamfer tools.

