

Financial and Workplace Math 110

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Hello class! If you are working towards a **Credit** in this course, instead of enrolled on your transcript, please let me know.

This week's material is new to the math curriculum but is related to studies in visual arts, engineering and in the trades where the ability to visualize and draw from different perspectives without technology is an important skill. We are going to examine 4 different 2-D ways to draw a 3-D object.

2D	3D
Two-Dimensional	Three-Dimensional
Represents an object with just two dimensions, i.e. length, and height.	Represents an object with three dimensions: Length, width, and height
Flat	Life-like

1. Orthographic drawings present a 2-D view of a 3-D object, as a front, top and side (usually right) view of the object. <https://www.youtube.com/watch?v=SdLegfoMXNA>
<https://www.youtube.com/watch?v=xPj2qBLnbi4> (Notice that the top view is drawn from above the front view)

- PDF- Ortho Practice
- PDF- Ortho WS (shaded view is usually the front view)
- Create an Orthographic drawing of an object in your house. If the sides of the object are different, you would include both sides in your drawing. I'll try to guess the item you've drawn.

2. Isometric drawings present a 2-D view of a 3-D object in which all horizontal edges of the object are drawn at a 30° angle, all vertical edges of the object are drawn vertically, and all lines are drawn to scale. https://www.youtube.com/watch?v=y_5YqwHqOhE
(Notice that there are no horizontal lines drawn, they can't be on isometric paper)

- Since you do not have isometric paper, go to <https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Isometric-Drawing-Tool/> and create an isometric drawing. Under *Create* tab, click the *block+*, the *color*, then drag it to the paper and click to place it. Click on *Inspect* tab, click on *2-D* to see the orthographic views. Re-create your drawing, including colors and ortho views.

3. In One point perspective drawings, the objects appear proportionally smaller with distance. Objects in the background will appear to join at a **vanishing point** in the distance. The point of perspective from above, below, or from one side or another will determine the direction to which the drawing decreases with distance.

<https://www.youtube.com/watch?v=kjsXD9Eyosg>

- Create a One point perspective drawing of a word, name, or even MOM, Mother's Day is this weekend!

4. Exploded view diagrams show the components of an object with the parts (even hidden ones) slightly separated but kept in position relative to one another. Many people use them as they illustrate the sequence of steps required to assemble furniture.

<http://homeli.co.uk/wp-content/uploads/2014/01/Ikea-Drawer-Assembly-Instructions.png>

- Draw an exploded view diagram of your favorite burger, sandwich, taco etc.

No **Games Day** this week, you'll be busy enough.

Have a great week, you've got this! 😊