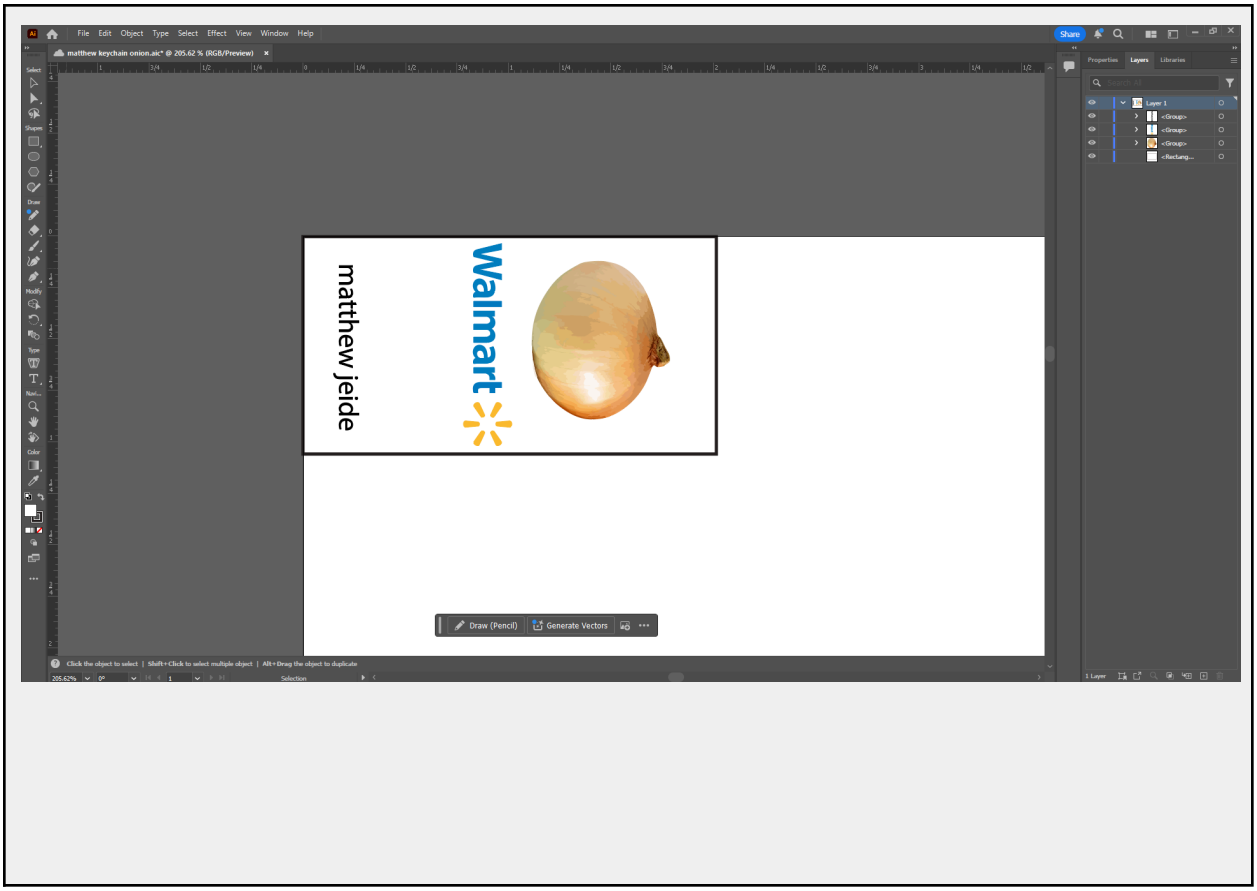
Last Name, First Name Date Period

W9: CIM Universal Laser Systems Keychain

Procedure

Detailed Sketch

Using Adobe Illustrator, redesign your 2in x 1.25 in keychain introduced in the beginning of the school year. You will need to view the instructions in this video: https://www.youtube.com/watch?v=ZIVTP3sgtA0&ab_channel=AmtekCompany
Attached to this assignment is a template on how to set up the design for cutting. Please review the video multiple times to make sure you understand that the template already has all the settings that you will need. Follow the instructions and design your keychain.



In your E-Portfolio, provide a screenshot of your progress and make sure to attach the file with your work. Make sure that you have included the dimensions so that I know that your design will fit in the 2in x 1.25 in rectangular keychain.

https://m-jeide.github.io/eng-portfolio/CIM/%5BW9%5D%20CIM%20%5BE-Porfolio%5D%20Printing%20to%20a%20Universal%20Laser%20Systems%20using%20Adobe%20Illustrator

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https://assets.adobe.com/id/urn:aaid:sc:US:118cd197-c0d6-4cde-8709-3fe0744a6610?view=published

What are the settings that allow you to cut the part versus the settings that allow you to raster engrave and vector engrave the keychain? What is the main difference? What is vector cutting?

The settings for cutting versus engraving on a laser system are primarily distinguished by the power and speed of the laser head, as well as how the laser interprets the design file.
Raster Engraving: This process is similar to how an inkjet printer works. The laser head moves back and forth, line by line, firing the laser beam to etch a surface. It's used for engraving filled shapes, images, or thick text. The settings for raster engraving typically involve moderate-to-high speed and low-to-moderate power. It works with pixel-based images (like a JPG or PNG) or filled vector shapes.
Vector Engraving: In this process, the laser follows a line (a vector path) in your design. Instead of cutting all the way through, it just scores the surface. This is ideal for outlining shapes or creating thin text. This requires very high speed and very low power to ensure the laser only marks the material.
Vector Cutting: Like vector engraving, this process follows a vector path. However, the goal is to cut completely through the material. To do this, the settings must be low speed and high power. This combination gives the laser enough time and energy to burn or melt through the material.
The main difference is the intent and the corresponding power/speed settings. Engraving adds a design to the surface, while cutting separates a piece from the main material.

Portfolio Update

Attach the updated link to the engineering portfolio in the space provided below. Make sure to add a sentence or two with a description of each of the steps completed.

https://m-jeide.github.io/eng-portfolio/CIM/%5BW9%5D%20CIM%20%5BE-Porfolio%5D%20Printing%20to%20a%20Universal%20Laser%20Systems%20using%20Adobe%20Illustrator

For this project, I created a custom keychain design using Adobe Illustrator, as instructed. I started with the provided template to ensure all the laser settings were correct. I designed a personalized ~2in×~1.25in keychain that included my name, the Walmart logo, and an image of an onion. Finally, I took a screenshot of my completed design in the software to document my work and attached a link to the design.