

**\*\*INTRO PAGE--DELETE THIS PAGE BEFORE DISTRIBUTING TO STUDENTS\*\***

## The One-Point Perspective Problem Student Worksheet

### Dilation Lesson

#### Option 3

*Below is one option of the student worksheet for the One-Point Perspective problem. This worksheet is a problem-based task developed by high school geometry teachers to address that “a dilation take a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged” (CCSS.MATH.CONTENT.HSG.SRT.A.1.A).*

- *Features: No perspective under trees (diagram page 1), lamp post (diagram page 2), color corresponding parallel lines*

#### Directions:

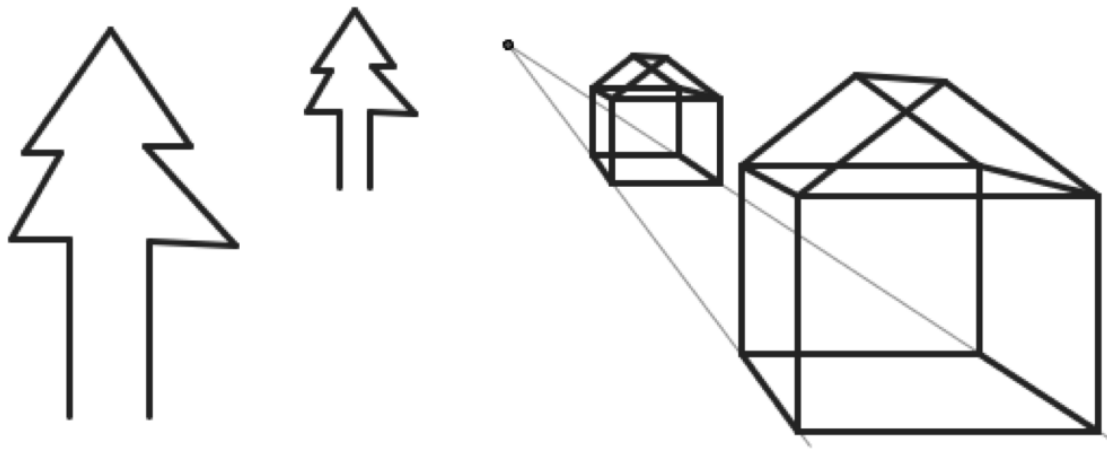
1. To edit the text and diagram, complete the following steps:
  - a. Go to “File” in the top left corner.
  - b. Select “Make a Copy” (This will copy the Google Document onto your personal Google Drive to edit).
  - c. Click “OK”.
  - d. Open the document in your Google Drive (Here you can edit the document as needed).
2. There are no location, specific words that must be changed for this lesson.



Name: \_\_\_\_\_

### The One-Point Perspective Problem

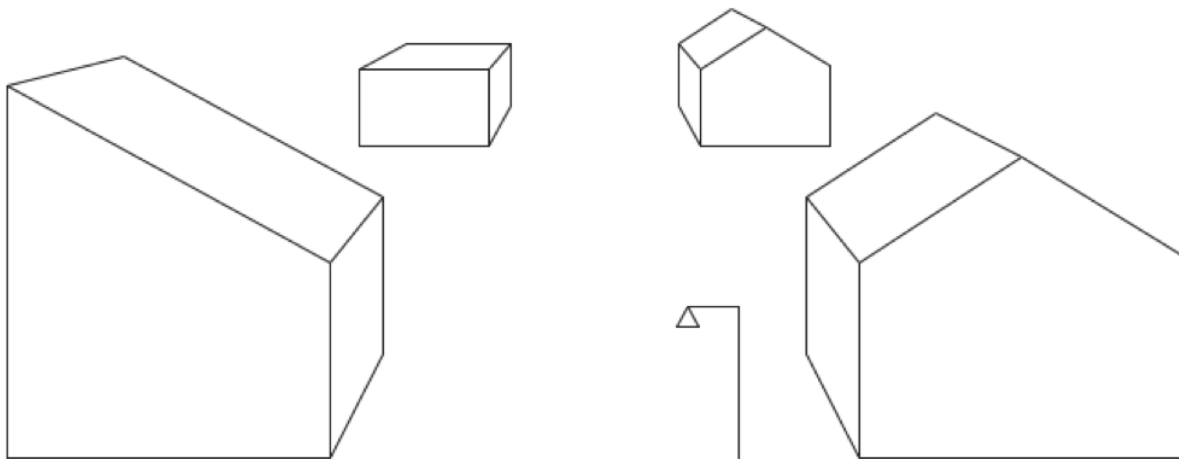
Linear perspective is a method designers use to show three dimensions in a picture. The simplest way to use linear perspective is to select one point in the distance, called a “vanishing point”. The objects in the picture below follow lines called “perspective lines” back to the vanishing point.



1) Are the real-life heights of the two houses the same or different? How can you tell?

2) Now investigate the trees. Are they the same height in real-life? How can you tell?

The following picture is a perspective drawing of a neighborhood that is still being built.



- 3) The second house back on the left side of the street isn't finished yet. Construct the roof so that it is the same as the front left house.
- 4) Construct a lamp post in front of the second house on the right. Construct the lamppost so that it is the same as the existing lamp post.
- 5) Decide on an item to add to the houses on the left. For any item you add to one house, construct the same item on the other house. Make sure you follow the rules of one-point perspective.
- 6) Color corresponding pairs of segments in your drawing. Use a different color for each pair. What do you notice?