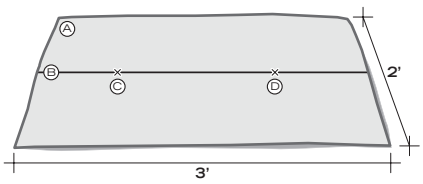
Project Application: 3-D Perspective Drawing

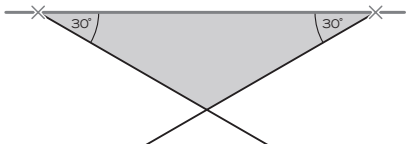
Perspective drawing requires finding the vanishing point and drawing rays that extend from that point. Get your students to draw a 3-D rectangle in perspective by asking them to follow these steps:

1. Using a piece of 2- by 3-foot blank paper or graph paper (A), oriented horizontally (landscape style), draw a line that bisects the paper (B). This is the horizon line.
2. Make a small "x" on the left edge (C) and on the right edge (D) of the horizon line. These are the vanishing points, the two points to which all visual lines lead.
3. Use a protractor (or estimate) to draw a 30-degree angle at each vanishing point, extending the rays of the angle toward the bottom of the paper until they meet to create a large isosceles triangle.
4. Form the base of a 3-D rectangle by drawing a dark, 1.75-inch horizontal line from the bottom point of the triangle to the left. Then draw a dark, one-inch line from the bottom point of the triangle to the right.
5. Draw a 1-inch vertical line from the bottom point of the triangle up.
6. Draw a 2-inch line extending from the top of the vertical line toward the left vanishing point (the first "x"), but the line should not connect to the vanishing point. Repeat for the right vanishing point.
7. Draw a vertical line that connects the left edge of the bottom line (the base of the rectangle) to the left edge of new line you created in step 7. Repeat for the right edge.
8. Complete the 3-D rectangle by drawing a line from the top of the right vertical line to the left vanishing point. Then repeat the process by connecting the left vertical line to the right vanishing point.

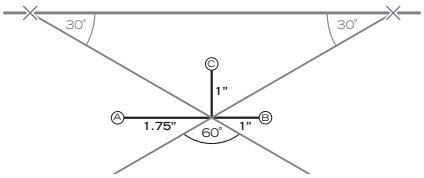
STEP 1 + 2



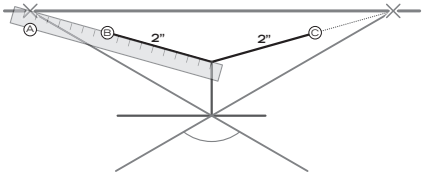
STEP 3



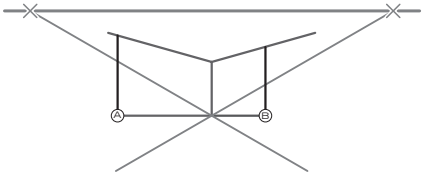
STEP 4 + 5



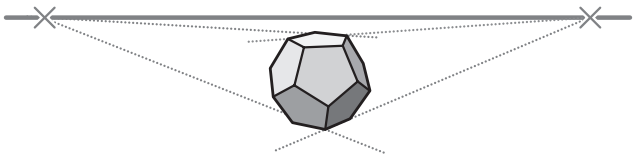
STEP 6



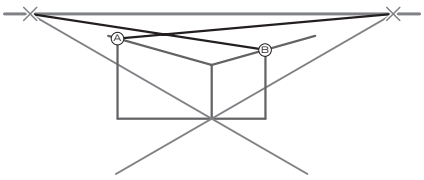
STEP 7



COMPLEX POLYGON WITH 2-POINT PERSPECTIVE



STEP 8



Support for coverage of learning beyond the classroom is provided in part by the Charles Stewart Mott Foundation.