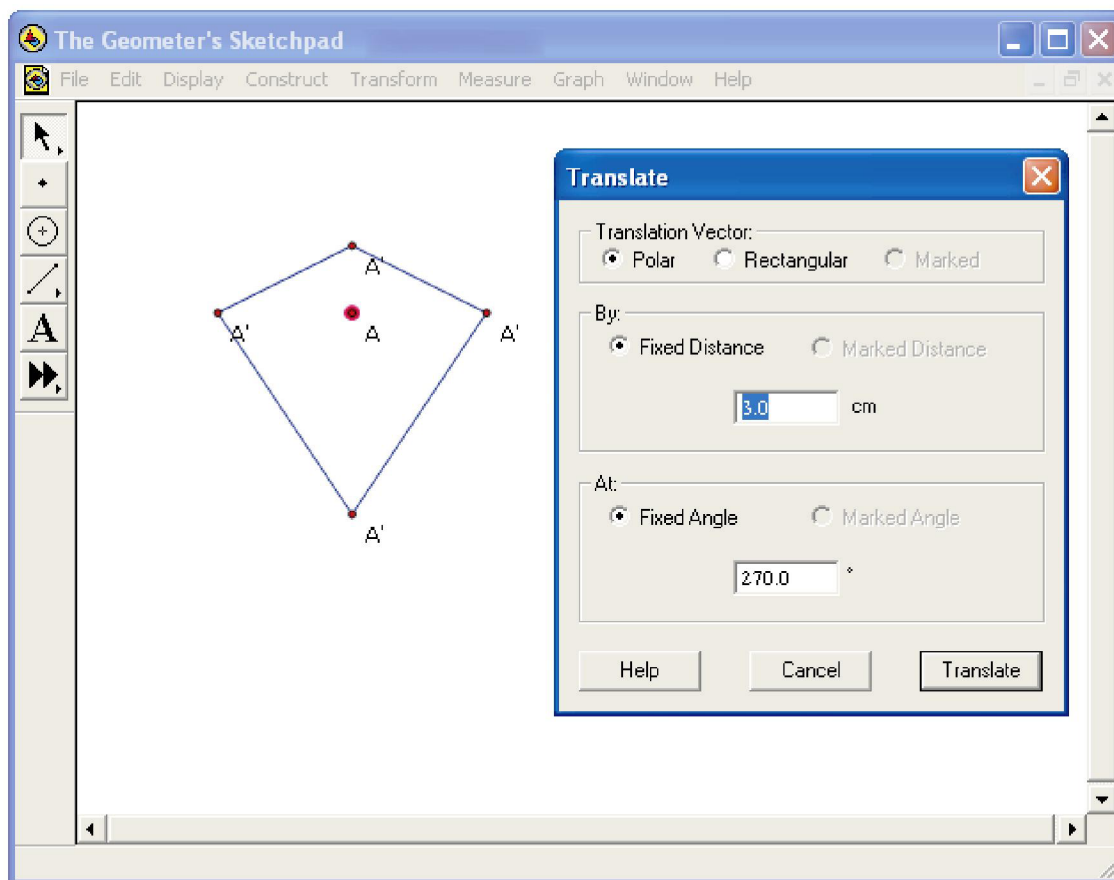


## Section 6.4 Use the Transform Menu in *The Geometer's Sketchpad*®

1. Open *The Geometer's Sketchpad*®. Draw a point in the workspace. Double-click on the point to mark it as a centre, or select the point, and then choose **Mark Center** from the **Transform** menu.
2. Choose **Translate** from the **Transform** menu. A dialogue box will appear. Drag the dialogue box away from the workspace. Change the value in the **Fixed Distance** box. Try 2 cm or 3 cm. Watch what happens to the image point in the workspace. Change the angle in the **Fixed Angle** box. Try  $0^\circ$ ,  $180^\circ$ , and  $270^\circ$ . Watch what happens to the image point. Enter values that place the image point 2 cm to the right of the centre point. Click **Translate**.
3. Select the centre point. Adjust the values to place another image point 2 cm to the left of the centre point. Continue this process to plot images 1 cm above the centre point, and 3 cm below the centre point. Join the four image points to form a kite.



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4. Open a new sketch. Draw a short horizontal line segment. Double-click on the left endpoint to mark it as a centre, or select the point, and then choose **Mark Centre** from the **Transform** menu.
5. Select the line segment, and the right endpoint. Choose **Rotate** from the **Transform** menu. A dialogue box will appear. Enter different values in the **Fixed Angle** box, and watch what happens to the image point. Enter a value of  $60^\circ$ , and click **Rotate**.
6. Notice that the new image point and line segment remain selected. Choose **Rotate** from the **Transform** menu, and click **Rotate**. Continue until you have six line segments visible in the workspace.
7. Join the image points to form a regular hexagon. You can hide the segments inside the hexagon, and the points along the outside perimeter. Select all objects that you want to hide. Then, press CTRL-h, or choose **Hide Objects** from the **Display** menu.

