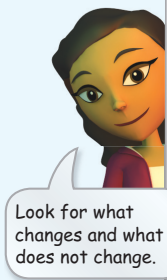
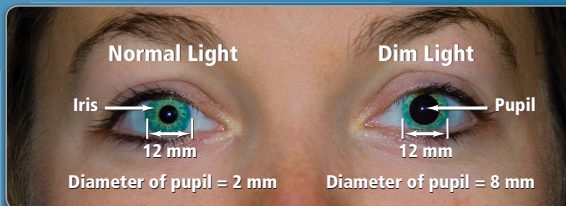


# 9-5 Solve It!



## Getting Ready!

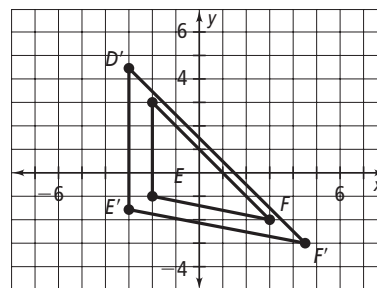
The pupil is the opening in the iris that lets light into the eye. Depending on the amount of light available, the size of the pupil changes.



Think of extending the definition of similar polygons you learned in Chapter 7 to apply to curved figures. Is the pupil in dim light similar to the pupil in normal light? Is the iris in dim light similar to the iris in normal light? Explain.

## 9-5 Lesson Quiz

- $\triangle D'E'F'$  is a dilation image of  $\triangle DEF$ . The center of dilation is the origin. Is the dilation an enlargement or a reduction? What is the scale factor of the dilation?



- Do you UNDERSTAND?** Quadrilateral  $WXYZ$  has coordinates  $W(-3, 2)$ ,  $X(1, 3)$ ,  $Y(2, -2)$ , and  $Z(-1, 2)$ . What are the coordinates of  $W'X'Y'Z'$  after a dilation centered at the origin by a scale factor of 2? Graph the preimage and image on a coordinate grid.

### Answers

#### Solve It!

Yes; no; for the pupils, the ratio of the radii and the ratio of the circumferences are both  $2 : 8$ , or  $1 : 4$ . Since the ratios of the corresponding parts are the same, the pupils are similar. For the irises, the ratio of the inner circumferences is the same as the ratio of the inner diameters, or  $1 : 4$ . But the outer diameter

(and therefore circumference) does not change, so the ratio of the outer circumferences is  $1 : 1$ . The ratios of corresponding parts of the irises are not equal, so the irises are not similar.

#### Lesson Quiz

- enlargement, 1.5
- $W'(-6, 4)$ ,  $X'(2, 6)$ ,  $Y'(4, -4)$ ,  $Z'(-2, -4)$ .

