### 8.1a Perimeter and Area Problem Solving

Answer each of the questions below.

1. What is the least number of tiles you can add to the figure below to create a shape with a perimeter of 16? Note: When adding a tile, the new tile must share at least one side with the original shape; each tile is 1 unit by 1 unit.



1. Use the original figure given above to answer a-d. Draw your answers. Note, an answer of just “yes” or “no” is not sufficient. Use pictures or words to justify your answer.
2. Can you add a tile to this figure to increase the perimeter by 1? If so, how?
3. Can you add a tile to this figure to increase the perimeter by 2? If so, how?
4. Can you add a tile to this figure to increase the perimeter by 3? If so, how?
5. Can you add a tile to this figure so that the perimeter doesn’t change? If so, how?
6. Can you make more than one shape with the same perimeter, but different areas? Show your ideas with grid paper.
7. Can you make more than one shape with the same area, but different perimeters? Show your ideas with grid paper.
8. If you pick any whole number between 12 and 24, use that many unit tiles, can you make a shape where the area and perimeter are equal? Show your ideas.

Spiral Review

1. Find the area of each of the following shapes:

|  |  |
| --- | --- |
|  |  |
|  |  |

1. Solve: −8 < −3*m* + 10
2. Solve: –12 > 3*x*
3. A website says that the odds of Mr. and Mrs. Durrand having a baby with blue or hazel eyes is 50:50. Describe a simulation that models the color of eyes their baby will have.
4. Write as a percent and decimal.