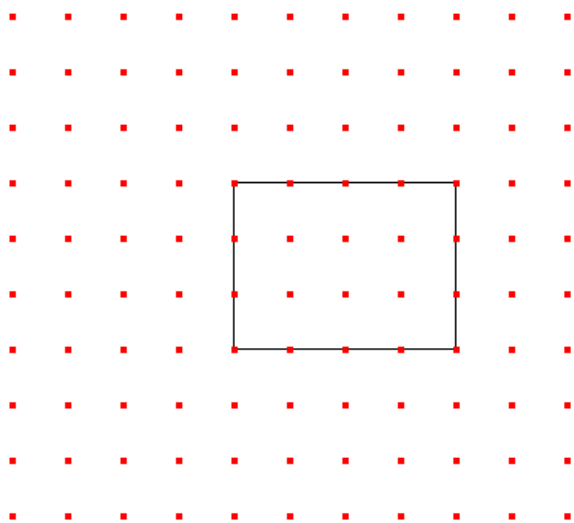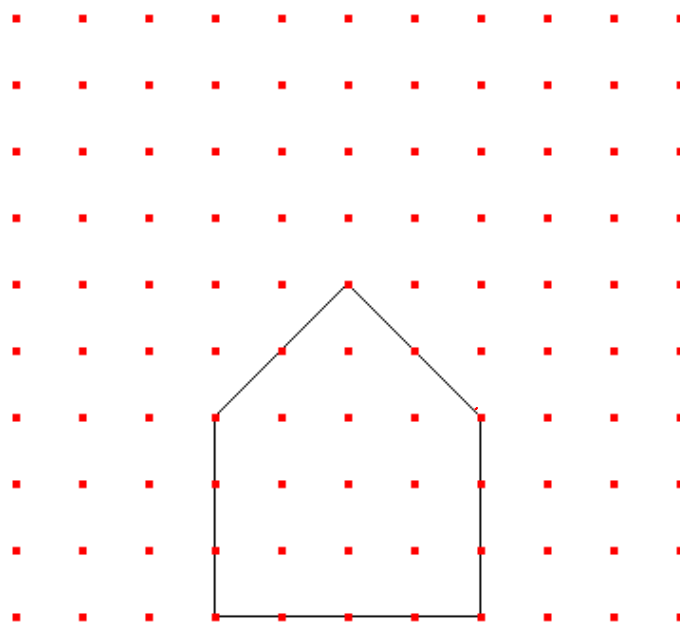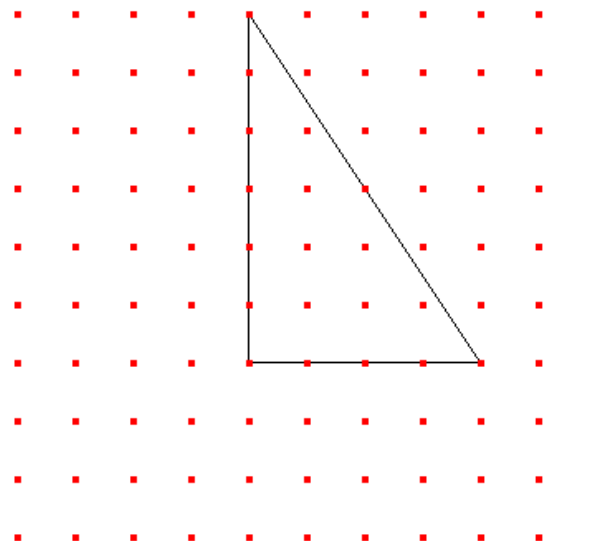Geometry G:
Pick's Theorem: Sheet 1

Name: _____

Goal: To discover Pick's Theorem, which is
the relationship between the area of a figure,
the number of "Perimeter Pins" and the
"Interior Pins"

1. In the diagram to the right, there are 14
points on the perimeter of the figure. I will call
these "Perimeter Pins"
2. In the diagram to the right, there are 10
points inside the figure. I will call these
"Interior Pins"
3. If I calculate the area, it is 16 square units.

Perimeter Pins = **14**   Interior Pins = **10**

Area = **16 u²**

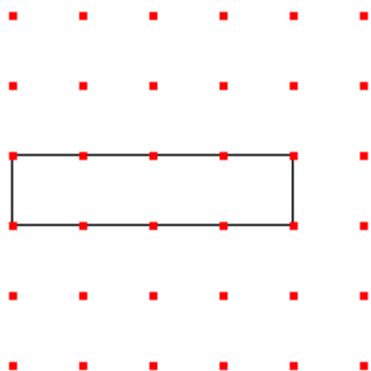Perimeter Pins = **14**   Interior Pins = **6**

Area = **12 u²**

Perimeter Pins = **12**   Interior Pins = **7**

Area = **12 u²**

1. Can you determine a relationship between
the Area, Perimeter Pins, and the Interior Pins?
In other words, how is the area related to the
Perimeter and Interior Pins?

Pick's Theorem: Sheet 2

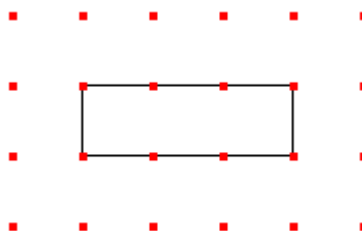Directions: Determine the number of "Perimeter Pins", "Interior Pins" and the Area for each figure.

1.

2.

Perimeter Pins = _____   Interior Pins = _____   Perimeter Pins = _____   Interior Pins = _____

Area = _____   Area = _____

3.

4.

Perimeter Pins = _____   Interior Pins = _____   Perimeter Pins = _____   Interior Pins = _____

Area = _____   Area = _____

5. Can you determine a relationship between the Area, Perimeter Pins, and the Interior Pins when there are no interior pins?   In other words, how is the area related to the Perimeter Pins?

Pick's Theorem: Sheet 3
Directions: Determine the number of "Perimeter Pins", "Interior Pins" and the Area for each figure.
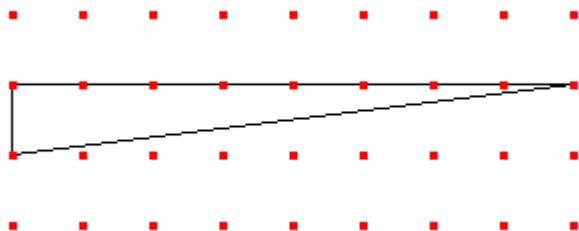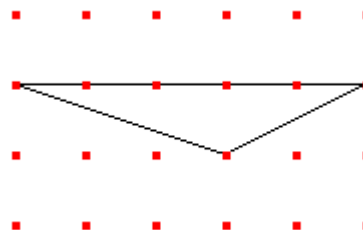
Perimeter Pins = _____   Interior Pins = _____

Area = _____

Perimeter Pins = _____   Interior Pins = _____

Area = _____

Perimeter Pins = _____   Interior Pins = _____

Area = _____

Perimeter Pins = _____   Interior Pins = _____

Area = _____
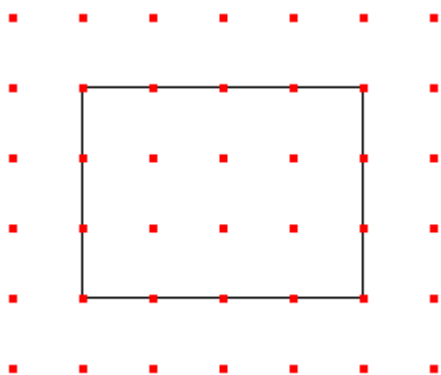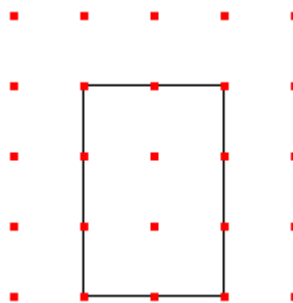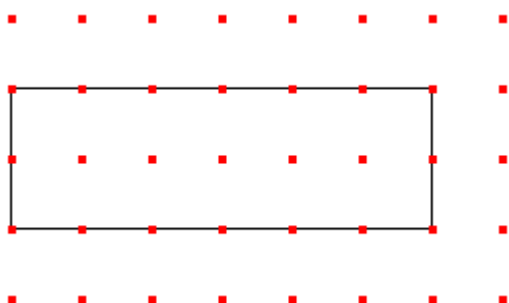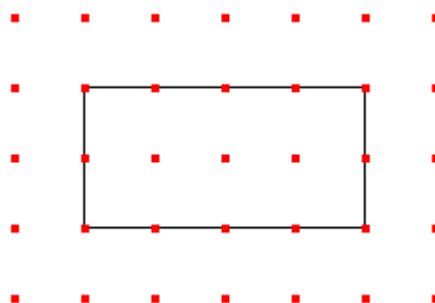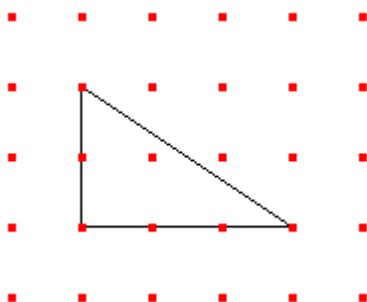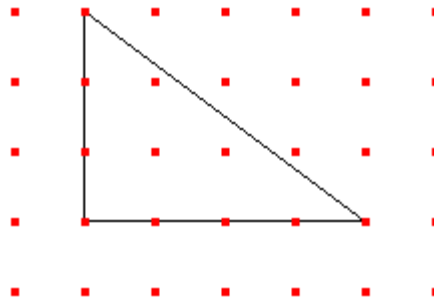
Perimeter Pins = _____   Interior Pins = _____

Area = _____
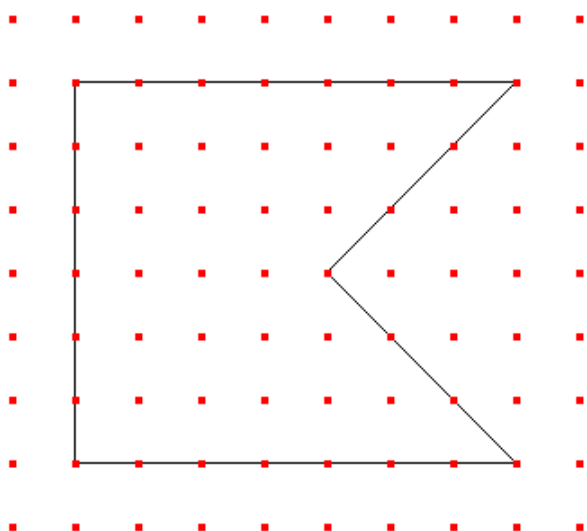
Perimeter Pins = _____   Interior Pins = _____

Area = _____

Pick's Theorem: Sheet 4

Using Sheet 3, can you determine a relationship between the Area, Perimeter Pins, and the Interior Pins when there are interior pins?
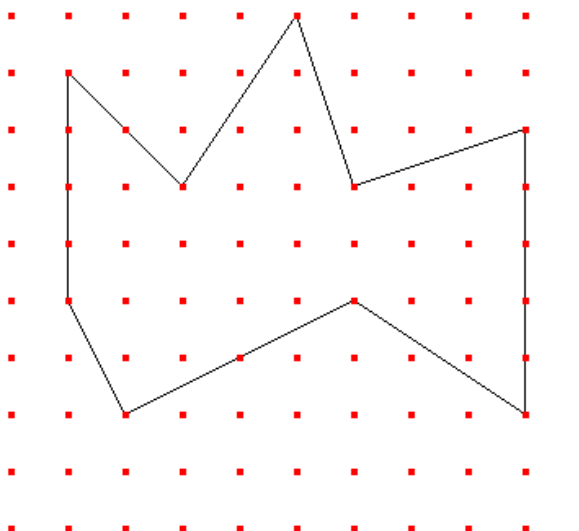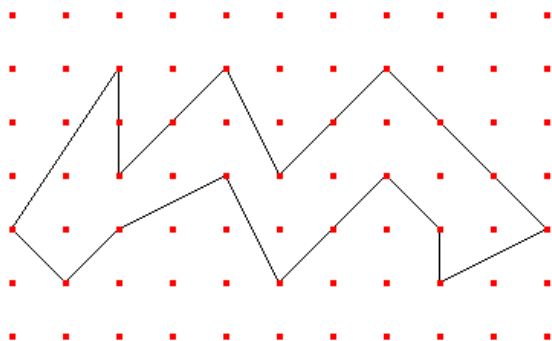
Write the formula in the box below.

Using the formula you developed, find the area of each figure using Pick's Theorem.

Perimeter Pins = _____   Interior Pins = _____   Perimeter Pins = _____   Interior Pins = _____

Area = _____   Area = _____

Perimeter Pins = _____   Interior Pins = _____

Area = _____