Triangle Tribulation

Two sides of a triangle have lengths 3 and 10 meters. How long could the third side be? Explain.

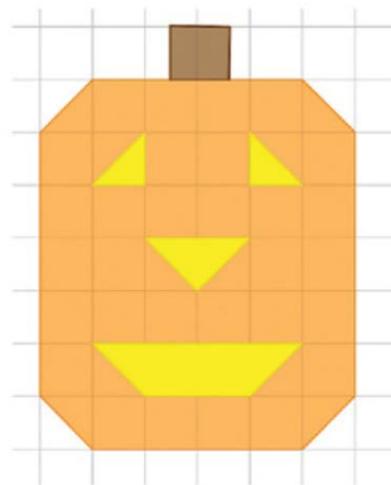## 4x4 Array

Lynette and Maura played a game with a 4 × 4 array of numbers:

4	2	7	5
3	1	8	4
5	6	4	2
7	4	5	3

Lynette found the least number in each row and then picked the greatest of these 4 numbers. Maura found the greatest number in each column and then picked the least of each of those 4 numbers. Who picked the greater number? Explain.
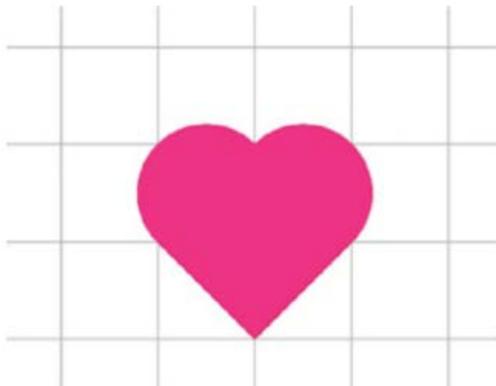
Jacked Up

In the jack-o'-lantern below, what fraction of the pumpkin's face was cut out to make the eyes, nose, and mouth? Explain.

Heart Help

Find the area of the heart pictured below. The squares in the grid are 1 × 1 squares. Explain.

Let's Hang Out

Danica and Chyron live on the same street, 1 mile away from each other. Danica can walk 1 mile every 15 minutes, and Chyron can walk 1 mile every 20 minutes. If Danica and Chyron leave their houses at the same time and start walking toward one another, will it take them more than or less than 10 minutes to meet? Explain.

Quadrilateral Quandary

Which quadrilateral has exactly 1 line of reflective symmetry? Explain.

Doubling Down

Calculate the perimeter and area of the house in the drawing below. If you were to double each dimension of the house, what would the new perimeter and area be? Explain.
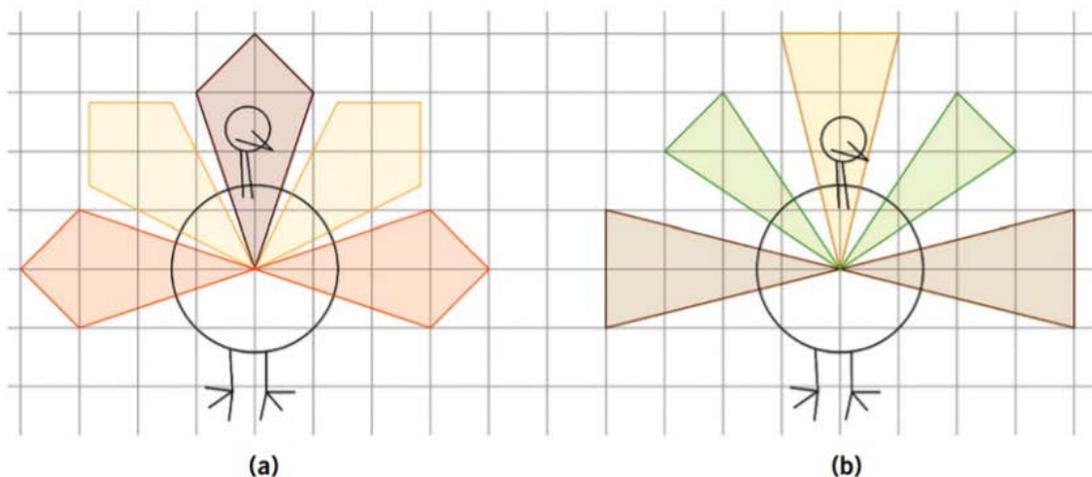
Sprouting Salmon

A lake has a population of salmon that doubles in size every day. If the lake is full after 21 days, when was the lake half full? Explain.

Let's Party

You plan to invite 12 people to your birthday party and need to purchase candy. At the local candy store, you can buy 4 jawbreakers for $1 or 3 chocolate bars for $2. How much money will you need to take to the candy store so that every guest can have 1 jawbreaker and 1 chocolate bar? Explain.

Turkey and Lurkey

Which turkey's feathers cover a larger total area? Explain.
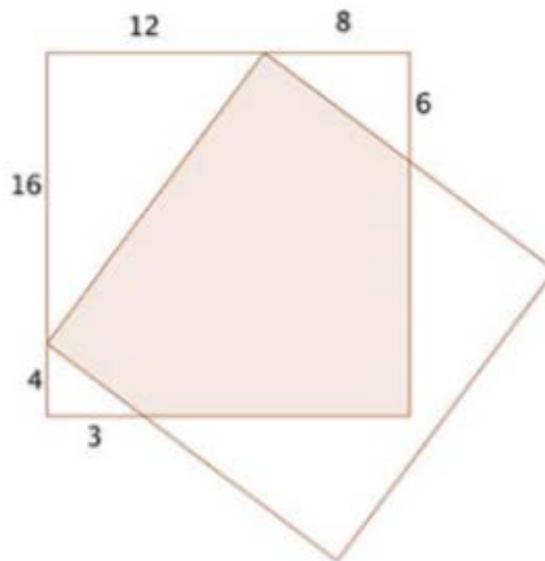

(a)   (b)

Tile Tension

Exactly 48 tiles, each 1 inch square, fill the inside of a rectangle without overlapping. How small can the perimeter of the rectangle be? Explain.
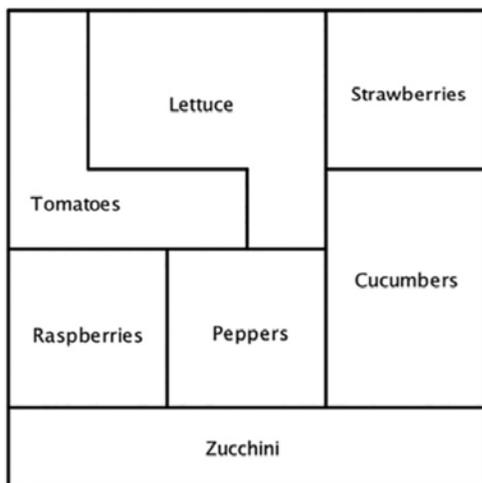
Drama Drama

The drama club buys cookies at the bakery at 8 for $1 and sells them to students after school for $0.25 each. How many must they sell to make a profit of $35? Explain.

Squared Up

The figure shows two congruent squares. The distances provide information about their relative locations. What is the area of the shaded region that is common to the squares? Explain.

The Plot Thickens

In the plot, what fraction of the garden is composed of lettuce? What fraction of the garden do zucchini and cucumbers together use? Explain.

Jack and Jill

Jack and Jill each had a summer job. Jack earned $10.00 per day. Jill earned $0.01 on the first day, $0.02 on the second day, $0.04 on the third day, $0.08 on the fourth day, and so on. Assuming that both Jack and Jill worked 30 days over the summer, who earned more money? Explain.