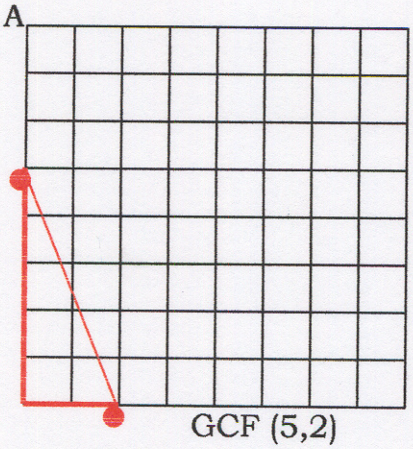
GCF and LCM on the Geoboard

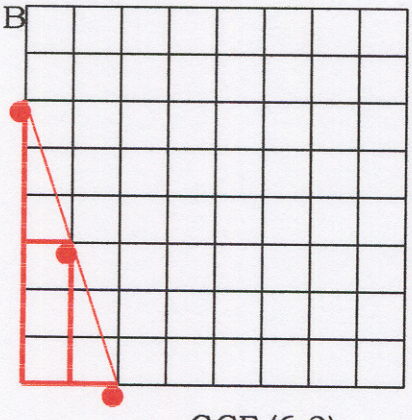
Examples of GCF on geoboard.

A



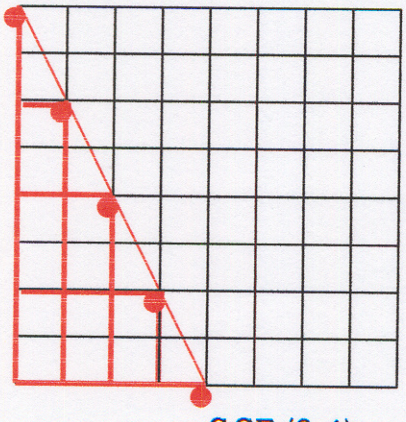
GCF (5,2)

B



GCF (6,2)

C



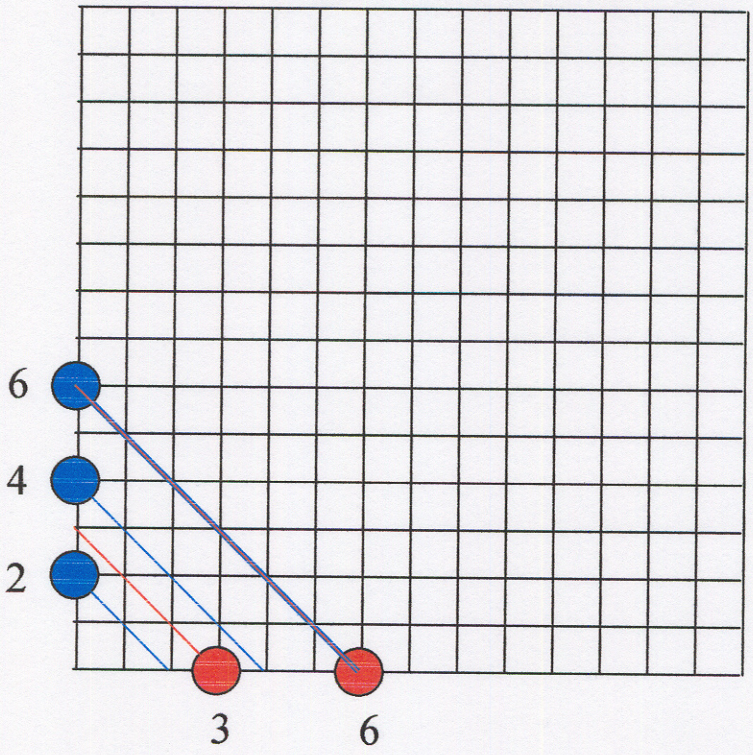
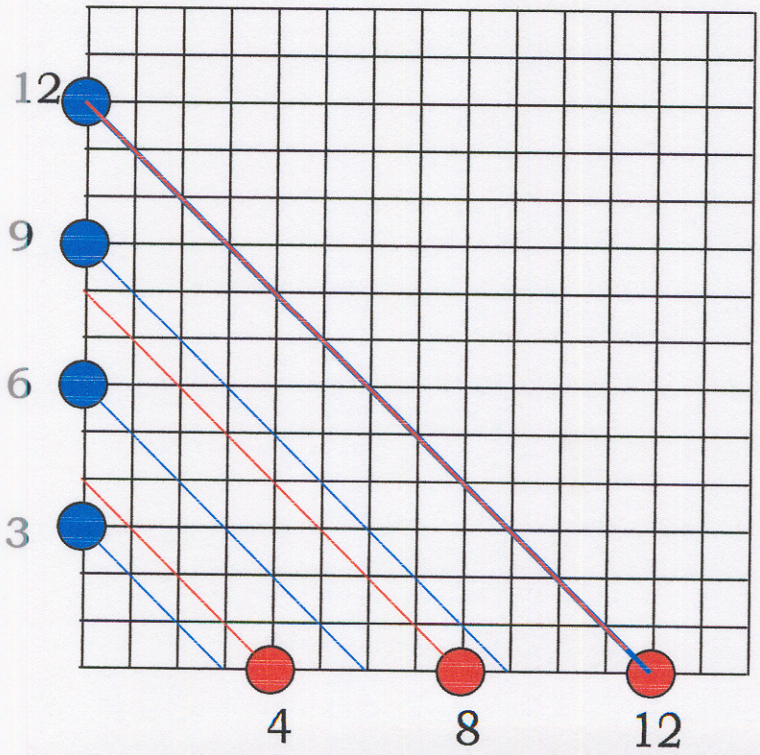
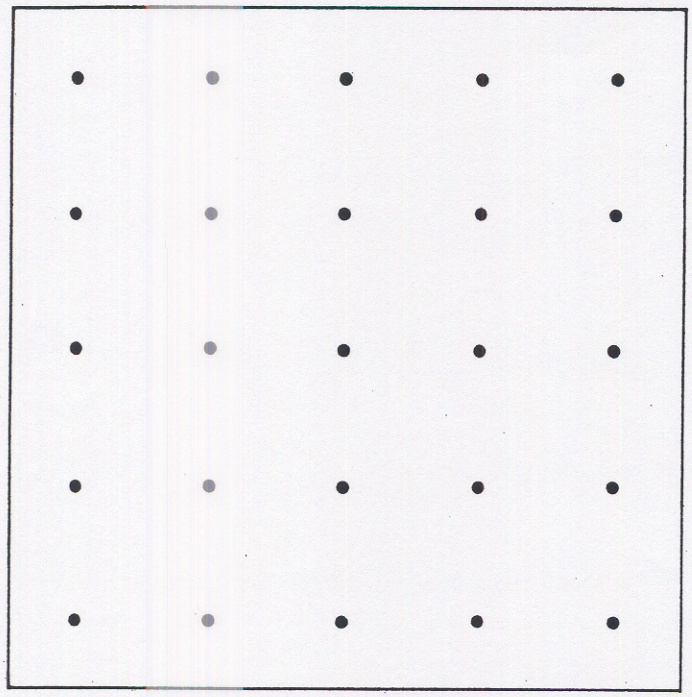
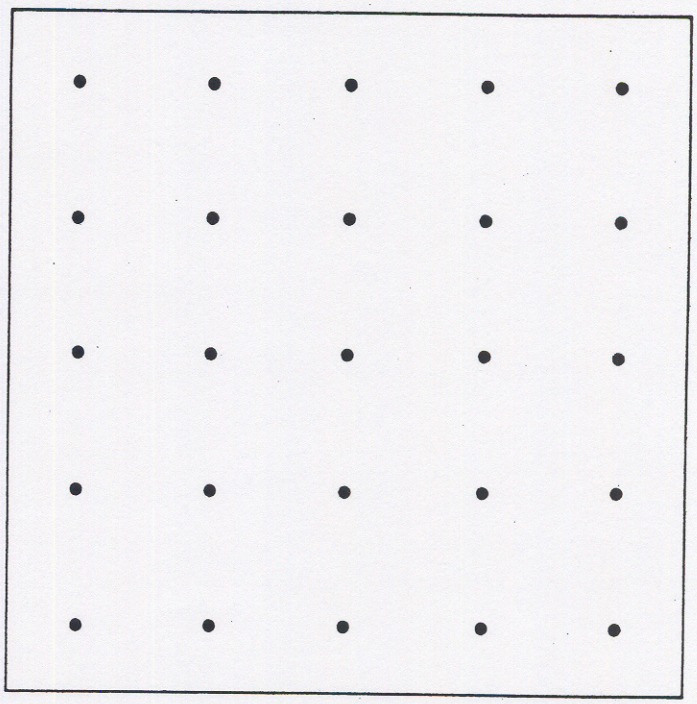
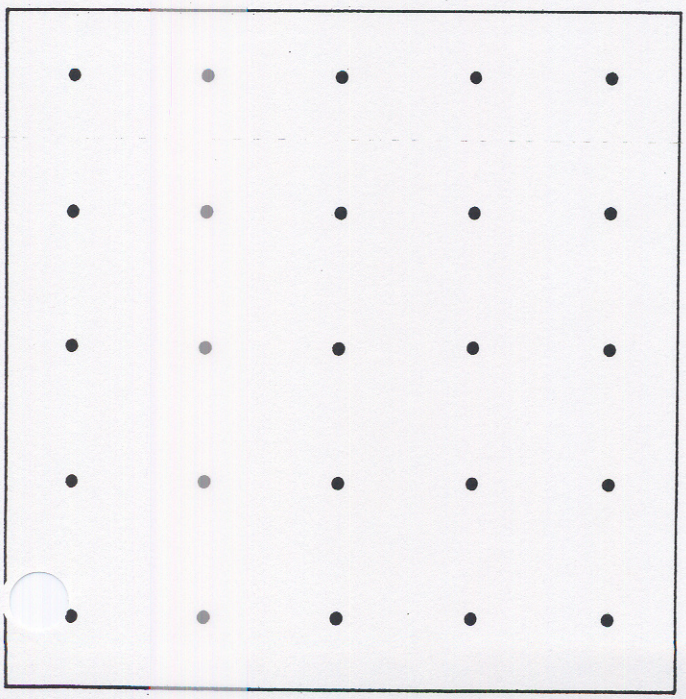
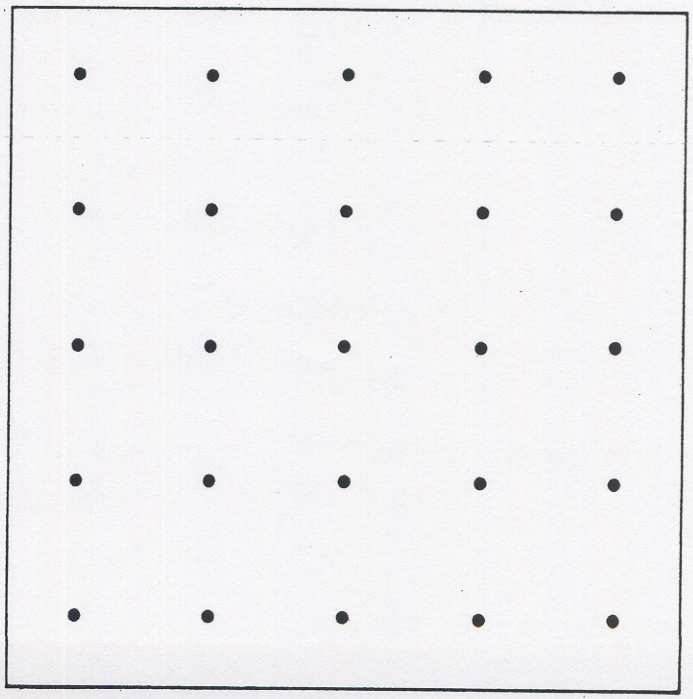
GCF (8,4)

Construct the two numbers along the edge of the geoboard or geoboard template. In example A, the line goes up 5 units and over 2 units. In example B, the line goes up 6 units and over 2 units. This forms a right angle. Draw a line connecting the end points of the right angle to form the hypotenuse of a right triangle. Place a point at every location where the hypotenuse touches perpendicular lines (or on a geoboard, where the rubber band touches a post) In example A, the hypotenuse did not touch any perpendicular lines (except the endpoints) Therefore, the GCF is 1. In example B, the hypotenuse, touches one point at (1,3). This divides the hypotenuse into two equal sections. Therefore, the GCF of 6 and 2 is 2. In example C, the hypotenuse touches 3 points at (1,6), (2,4), and (3,2). This divides the hypotenuse into 4 equal sections.

You may have the students continue by drawing, from each point along the hypotenuse, perpendicular lines to the x and y axis. This will form triangles and, if the GCF is greater than one, rectangles. The number of congruent triangles will also be the GCF of the two numbers.

Have students look for additional patterns.

LCM (2,3)



LCM (3,4)