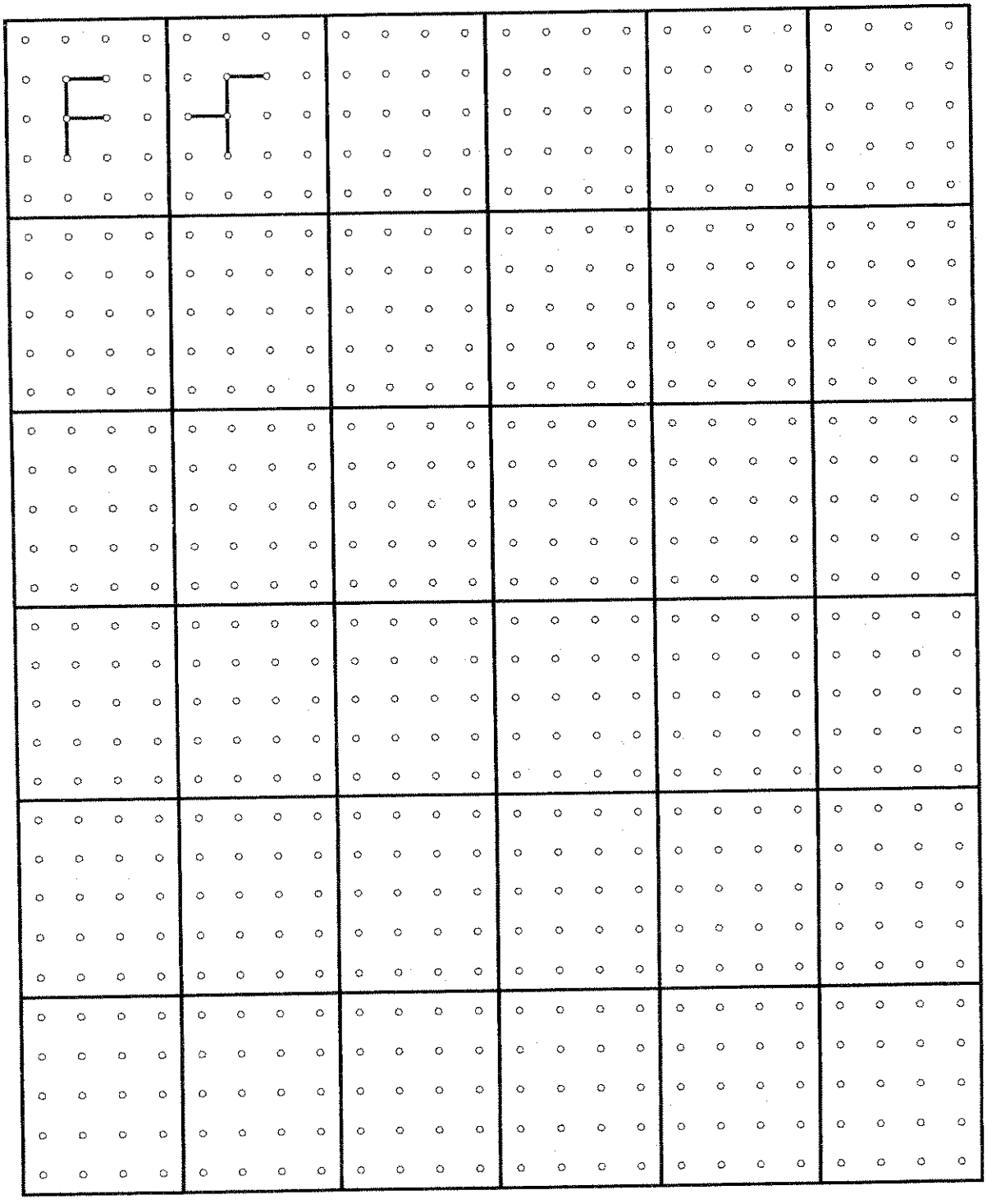
Section 20.1 - Rigid Motion

Activity (p.1) - Different Shapes



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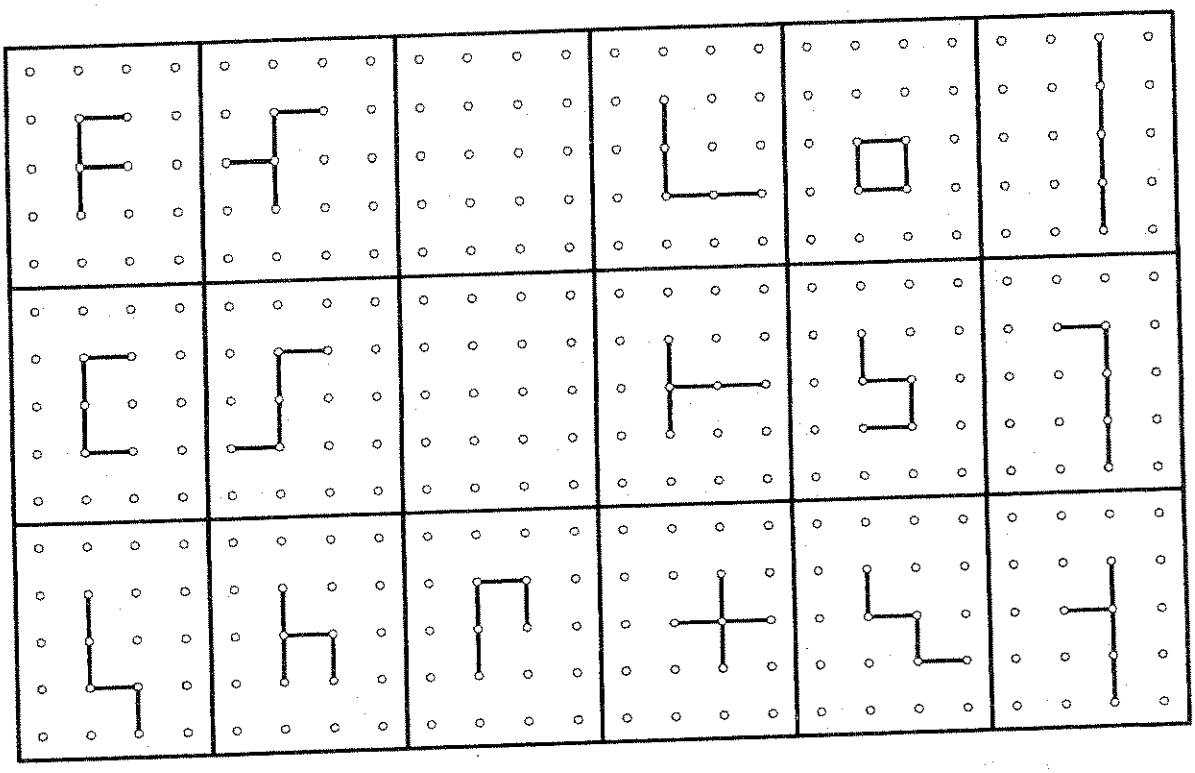
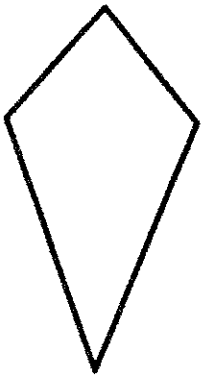
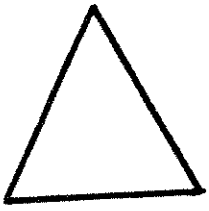
Activity (p.1) - Different Shapes

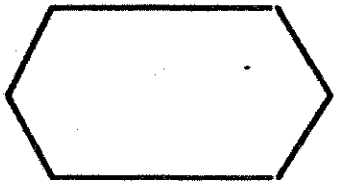


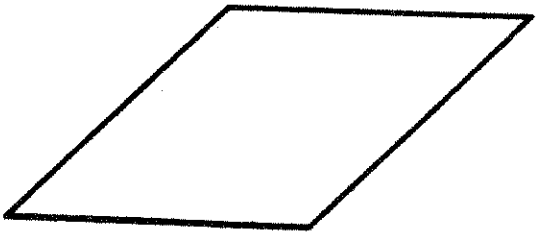
REFLECTION AND ROTATIONAL SYMMETRY

Check the following polygons for number of reflection and rotational symmetries.

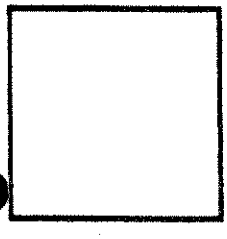


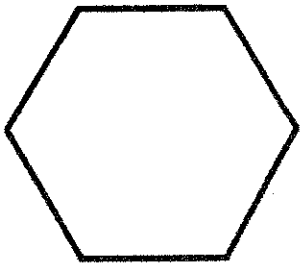


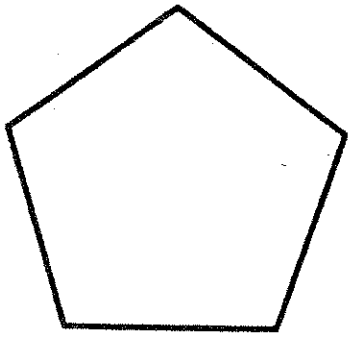


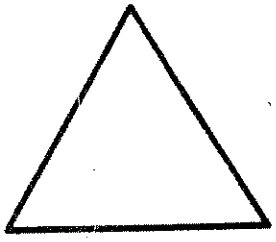


The following figures are **regular polygons**. Regular polygons have special rules for number of reflection and rotational symmetries. See if you can find the pattern.









CAPITAL LETTERS WITH SYMMETRY

Reflection (or line) symmetry:

A H I M O T U V W X Y (vertical)

B C D E H I K O X (horizontal)

Rotational (or point) symmetry:

H I N O S X Z (180°)

Both reflection and rotational symmetry:

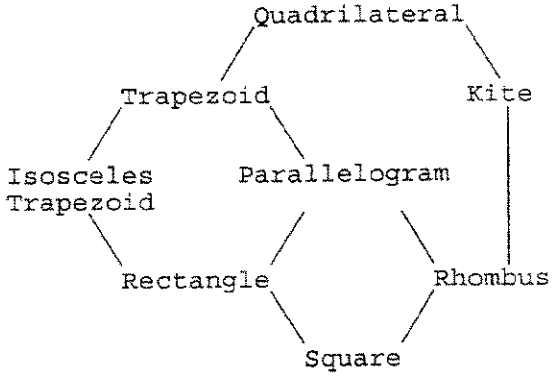
H I O X

(Notice that letters with two lines of reflection also have 180° rotational symmetry.)

No symmetry:

F G J L P Q R

THE QUADRILATERAL HIERARCHY



Notice that the hierarchy is consistent when talking about symmetries. For example, the kite and the isosceles trapezoid each have one line of (reflection) symmetry. Since a rhombus is a kite in two different ways, it has two lines of symmetry. Since a rectangle is an isosceles trapezoid in two different ways, it has two lines of symmetry. Since a square is both a rhombus and a rectangle, it has four lines of symmetry.