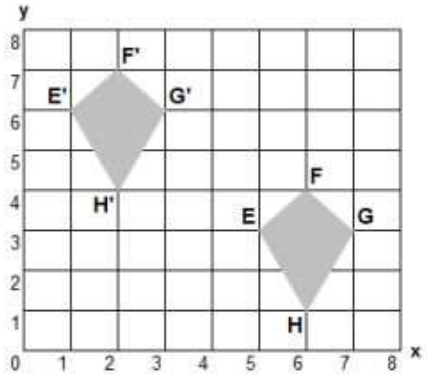
Geometric Transformations: Translations ("Slides"), Reflections ("Flips"), and Rotations ("Turns")

Name _____

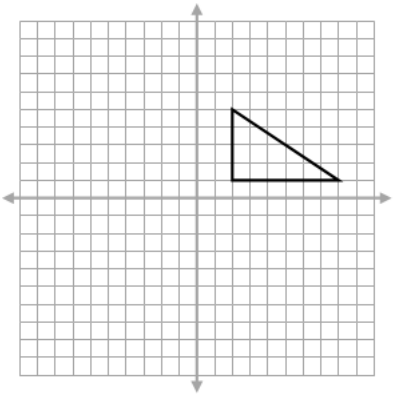
1. Translations

(a) Draw the vector that translates kite EFGH to kite E'F'G'H'.



Write this same vector in algebraic notation: (x, y) → (_____ , _____)

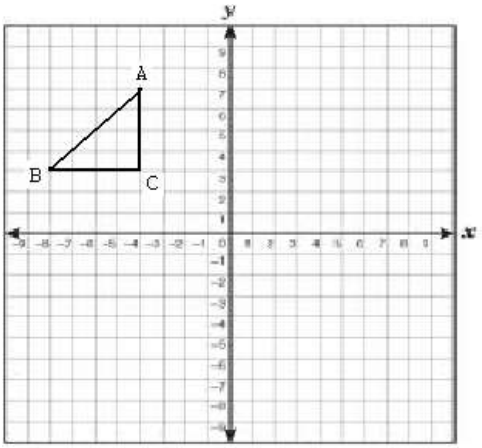
(b) Carry out an (x, y) → (x – 10, y + 5) translation of the following triangle.



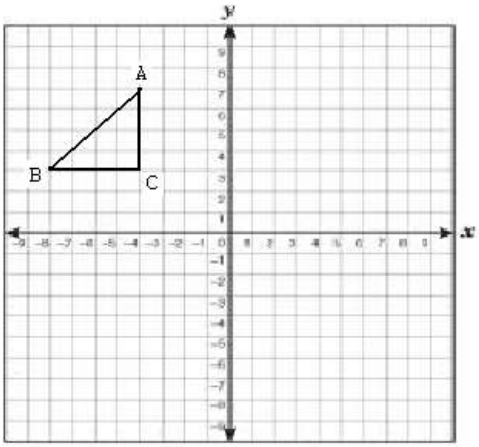
2. Reflections

Reflect the following triangle over the

(a) x-axis

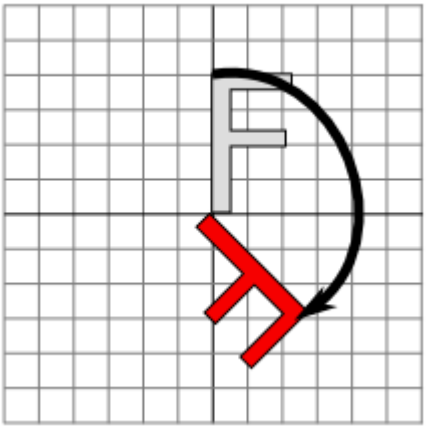


(b) y-axis



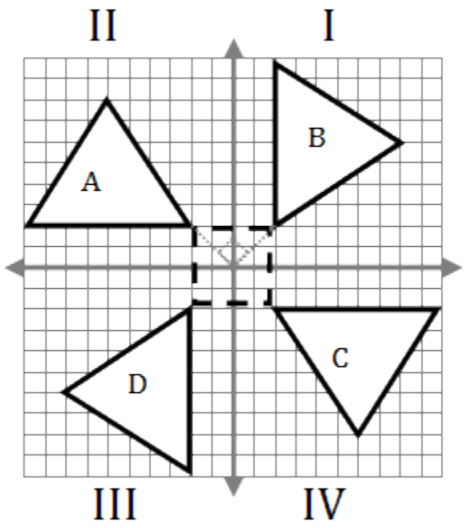
3. Rotations

Find the center of rotation and the angle of rotation that maps the gray letter F onto its red image.



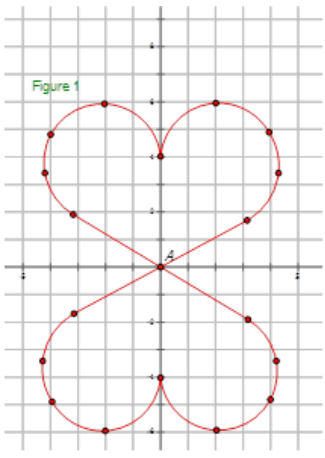
If the origin is the center of rotation, find the angle of rotation that maps figure A onto

B _____ C _____ and D _____ .



4. Thoroughly discuss the symmetries of the following diagrams (point, turn, and line) with details about the angles of rotation and the lines of symmetry.

(a)



(b)