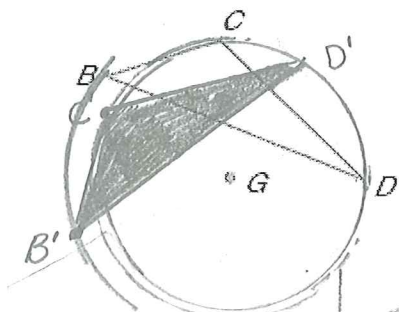


key

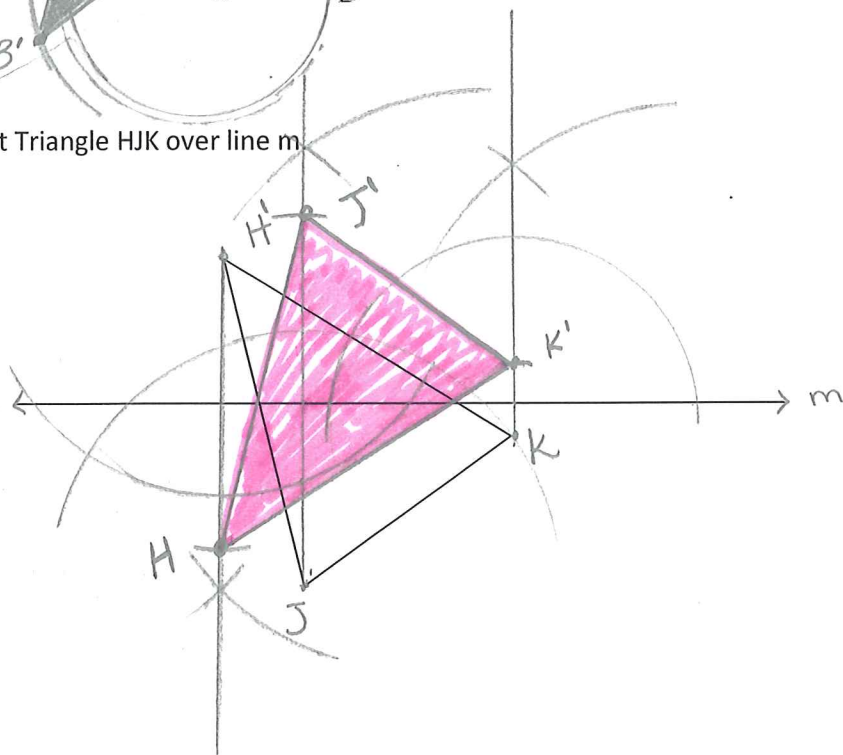
### 9.1-9.3 Reflections/Rotations/Translations- Review

#### ROTATIONS ON A PLANE

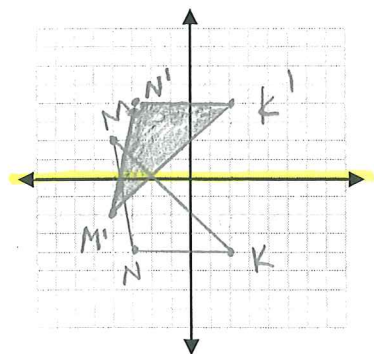
- 1 Rotate the triangle  $60^\circ$  counterclockwise about point  $G$



2. Reflect Triangle  $HJK$  over line  $m$



3. Reflect triangle  $KMN$  over the  $x$ -axis.  $K(2, -4)$ ,  $M(-4, 2)$ ,  $N(-3, -4)$ .



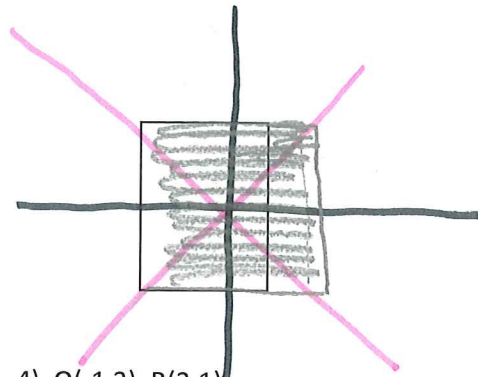
4. Lines of symmetry:

How many lines of symmetry does a square have?

4

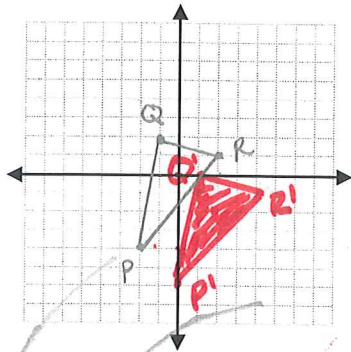
Does it have a point of symmetry?

yes

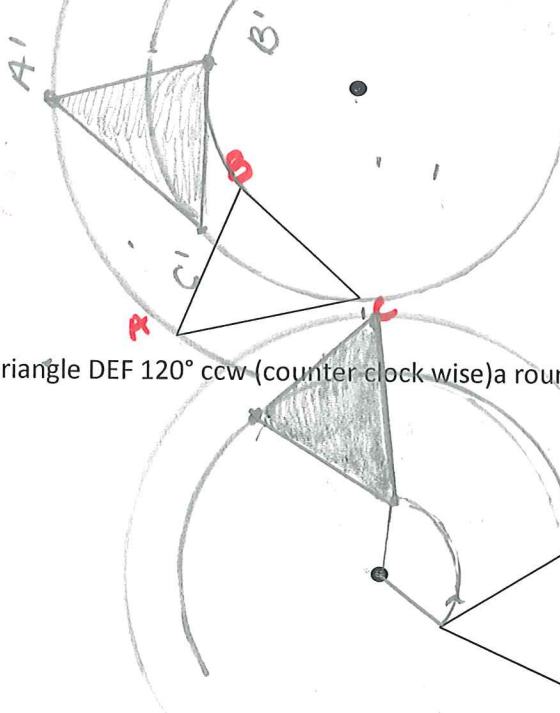


5: Translate triangle PQR down 2 units and right 2 units.  $P(-2,-4)$ ,  $Q(-1,2)$ ,  $R(2,1)$ .

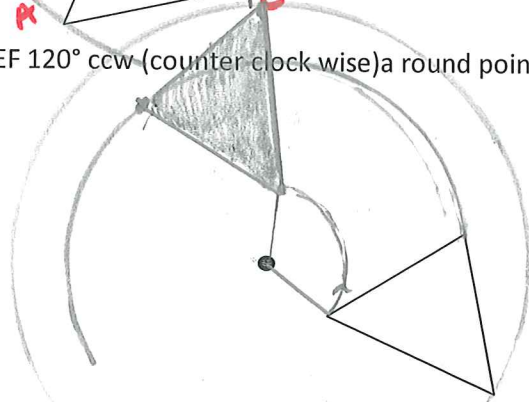
$$(x, y) \rightarrow (x + 2, y - 2)$$



6: Rotate triangle ABC 50° cw (clockwise) around point F.



7: Rotate triangle DEF 120° ccw (counter clock wise) around point G.



8Ex: Rotate triangle FGH 90° ccw around the origin.  $F(2,2)$ ,  $G(4,1)$ ,  $H(5,4)$ .

