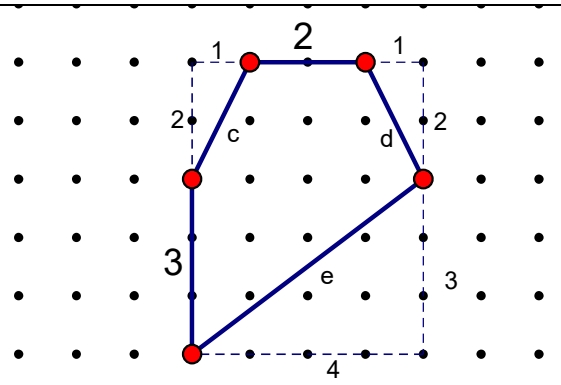
More geometry problems, sample problems

Perimeter:

Find the perimeters. Show how you figured out the side lengths in an organized way:

1.



$1^2+2^2=c^2$ $\quad 1^2+2^2=d^2$ $\quad 3^2+4^2=e^2$

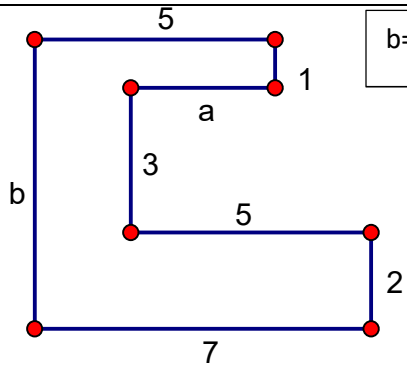
$1+4=c^2$ $\quad 1+4=d^2$ $\quad 9+16=e^2$

$5=c^2$ $\quad 5=d^2$ $\quad 25=e^2$

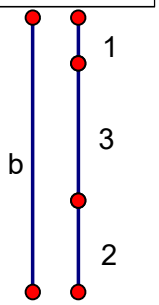
$c=\sqrt{5}$ $\quad d=\sqrt{5}$ $\quad e=5$

Perimeter = $2+\sqrt{5}+5+3+\sqrt{5}=10+2\sqrt{5}$

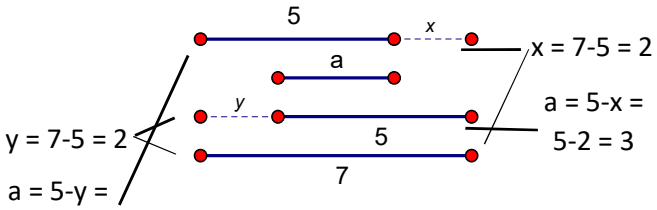
2.



b=1+3+2=6



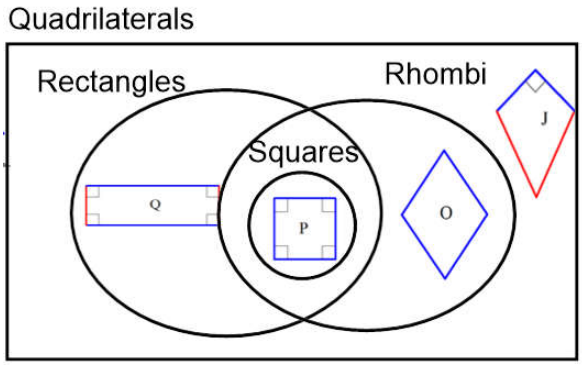
Do either:



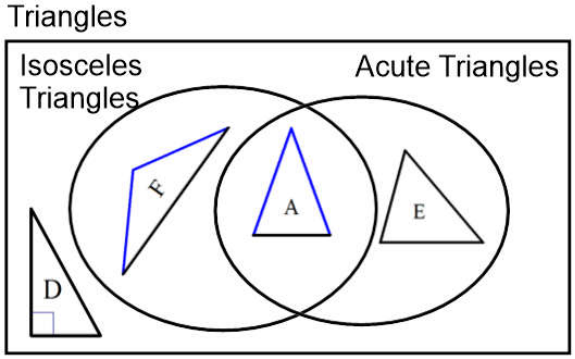
or do:

Classifying Shapes:

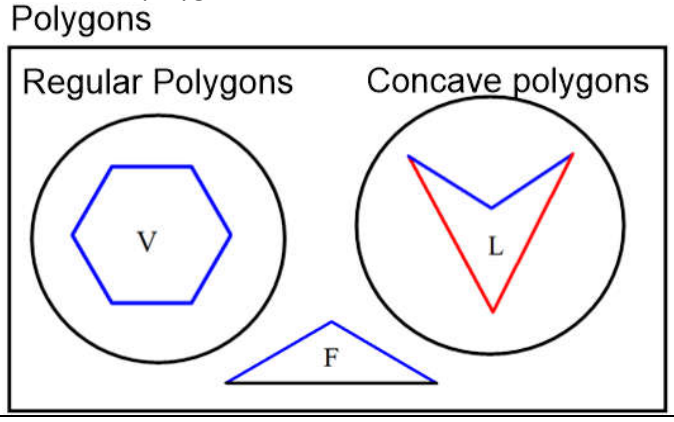
3. Draw a Venn diagram showing the relationship between a rectangles, rhombuses, and squares in the universe of quadrilaterals. …



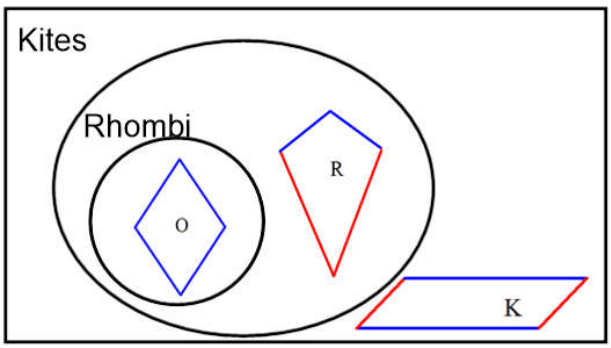
4. Draw a Venn diagram showing the relationship between isosceles triangles and acute triangles in the universe of triangles…



5. Draw a Venn diagram showing the relationship between regular polygons and concave polygons in the universe of polygons. …



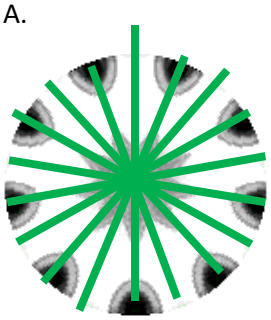
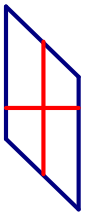
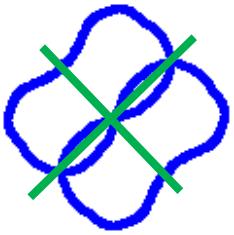
6. Choose two types of special quadrilaterals (parallelogram, rectangle, square, rhombus, kite or trapezoid) that have a set-subset relationship…



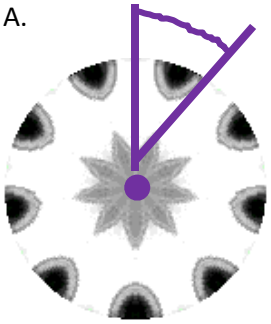
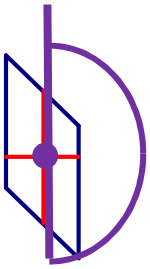
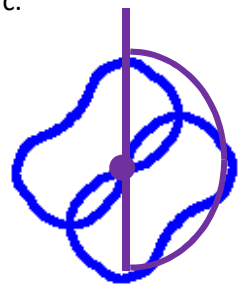
Symmetry:

7. Draw in all of the symmetry lines, and find and show the angle of rotation symmetry for each of the following:

Symmetry lines:

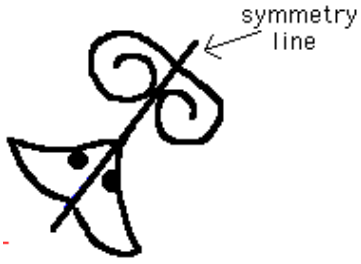
A.	B.	c.
	 No reflection lines	

Rotation angles:

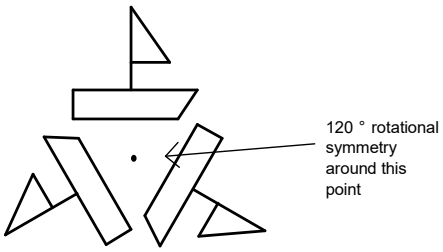
A.	B.	c.
 360° ÷ 9 = 40° rotation Order 9 rotation	 180° Order 2 rotation	 180° Order 2 rotation

8. Complete the pattern so that it has reflection or rotational symmetry as specified:

A.

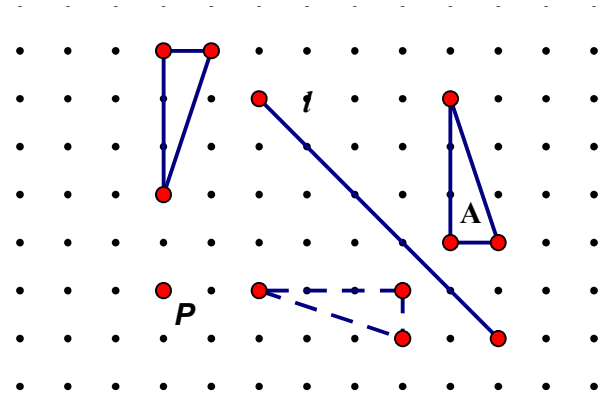


B.

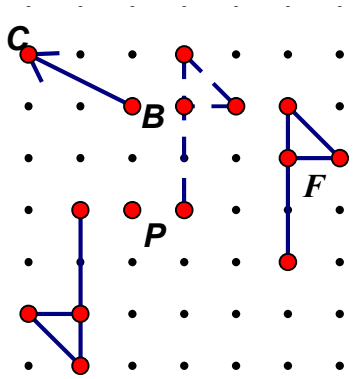


Transformations:

9. Show with a dotted line, the image of triangle A after reflection in line l, and then show with a solid line, where the reflected triangle would be after being rotated by 90° counterclockwise around point P:

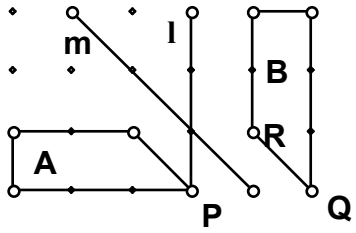


10. Show with a dotted line, the image of flag F after translating along the vector from B to C and then show with a solid line, where the translated flag would be after being rotated by 180° around point P:



11. Tell how to get from trapezoid A to trapezoid B using 3 or fewer transformations:

A.

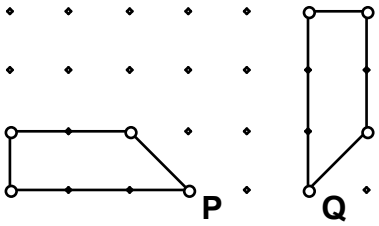


Option 1: reflect in line m, and translate on the vector from R to Q.

Option 2: reflect in line l, rotate 90° counter clockwise around P, translate on the vector from P to Q

other correct answers are possible

B.



Option 1: rotate -90° around P, and then translate on the vector from P to Q

Option 2: translate on the vector from P to Q and then rotate 90° clockwise around Q.