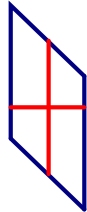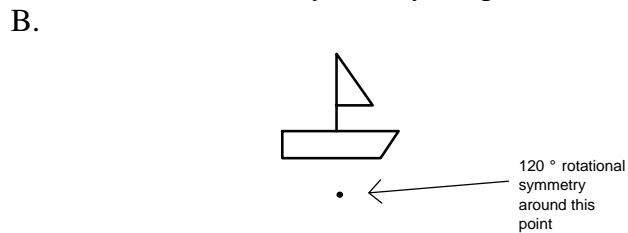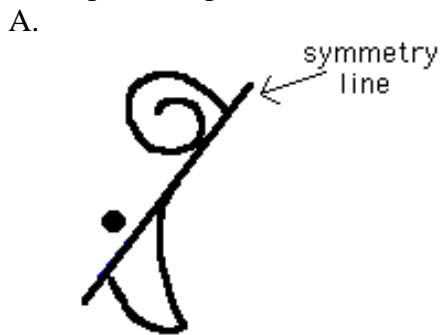Math 246 Geometry practice problems:

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

A.	B.	c.

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

A.

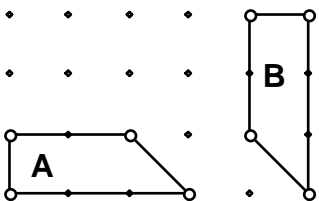symmetry
line

B.

120 ° rotational
symmetry
around this
point
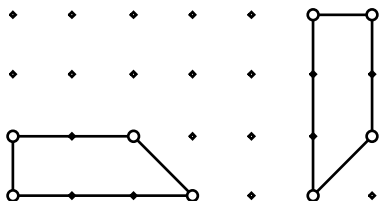
4. Show with a dotted line, the image of triangle A after reflection in line l, and then show with a solid line, where the reflected triangle would be after being rotated by 90° counterclockwise around point P:
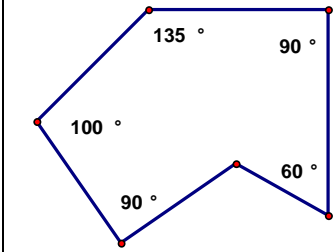
l

A

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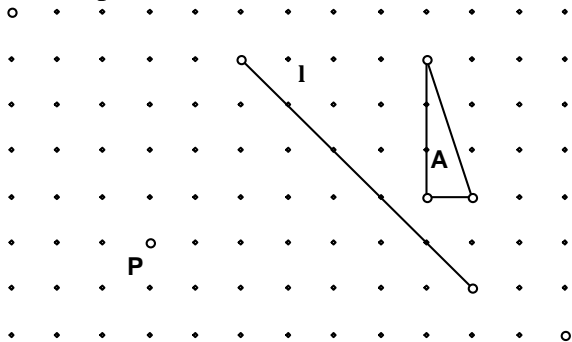
5. Show with a dotted line, the image of flag F after translating along the vector from B to C and then show with a solid line, where the translated flag would be after being rotated by 180° around point P:

C

B

F

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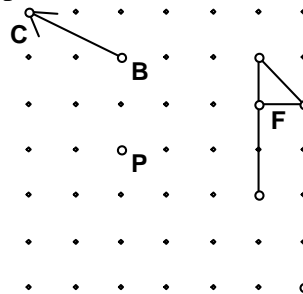
5. Tell how to get from trapezoid A to trapezoid B using 3 or fewer transformations:

A.

B

A

B.

(A on the left)

6. Find the missing angle measure in the polygon below:

135 °   90 °

100 °

60 °

90 °

9. Draw a Venn diagram showing the relationship between a rectangles, rhombuses, and squares. Draw a picture of something that belongs in each non-empty region.

10. A. Circle the types of quadrilateral on the list whose diagonals bisect each other:
square; rectangle; parallelogram; rhombus; kite; trapezoid

11. Choose two of the types that you have chosen in the list above that have a set-subset relationship, and label them on the Venn Diagram below:
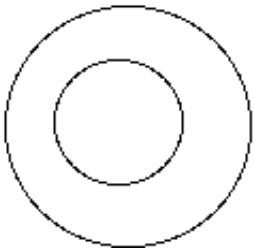
12. Here are some examples of trapezoids and non-trapezoids. For non-examples A and B, tell what concept is being clarified by having them as non-examples.

Trapezoids   Non-trapezoids

A.

B.
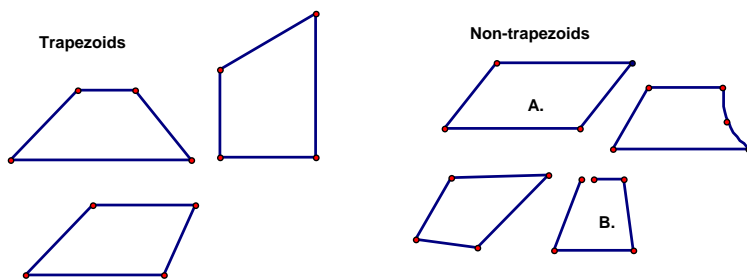
15. Show how to find the measure of an interior angle of a regular octagon.
Things to study from previous units:

Things to look for from test 1:
- Explaining and solving problems with patterns
- Fixing equations so that they are correctly written

Things to look for from test 2:
- Bar diagrams for illustrating word problems (addition, subtraction, multiplication, division)
- Partition vs. Measurement division
- Join vs. PPW addition
- Separate, vs. PPW-PU vs. Compare subtraction
- The commutative and distributive laws and how to explain them

- Scaffolding division, expanded multiplication and showing multiplication on a grid
- Standard algorithms for all 4 operations