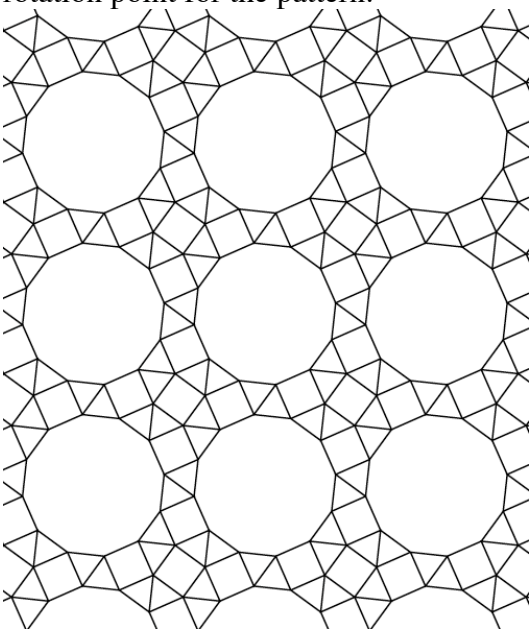
Test 2 practice

1. Show how to find the measure of an interior angle in a regular 12-gon.

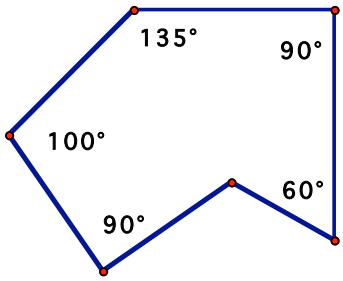
2. A. Draw in all of the symmetry lines and rotation points, and tell the rotation angles for each rotation point for the pattern:



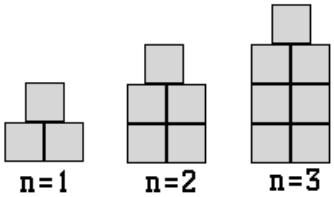
B. Identify the 3 different kinds of vertices in the tessellation, name them, and prove, using angle measurements, that the tessellation works at each vertex.

3. Explain, using angle measurements, how you know that you can't make a tessellation using only regular heptagons (7-sided)

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



5. Find a function rule for the number of tiles in this pattern, and explain why your function rule makes sense:



6. What CGI type are each of these? Which ones are easier and harder?

a. Mary had 6 apples. Her friend gave her 2 more apples. How many apples does Mary have now?

b. There are 6 boys and 2 girls in Ms. Triangle's reading group. How many children are in the reading group?

c. Kyle ate 4 apples. Now he has 3 apples. How many apples did Kyle have to start with?

7. Write a Separate, result unknown and compare difference unknown problems. Explain how to direct model each

8. Tell what problem type each of these problems is:
a. Janet has 20 cookies. She wants to put the same number of cookies in each of the 5 lunch bags she is filling. How many cookies should she put in each bag?
b. Andrea has 4 sheets of stickers. Each sheet has 8 stickers on it. How many stickers does Andrea have?
c. I have 28 chocolate almonds. If I eat 4 each day, how long will my chocolate almonds last?
d. Each pencil costs 15 cents. How much do 4 pencils cost?
f. Sam has 35 cents. Lemon drops cost 5 cents each. How many lemon drops can Sam buy?

9. Write a measurement division, a partitive division and a multiplication problem. Explain how to direct model each

10. a. Explain how knowing the commutative* law of multiplication helps children learn the multiplication facts
b. Draw a diagram that shows why the commutative* law of multiplication makes sense (this problem would probably be phrased in a way similar to the homework assignment.
*distributive could be here instead.

11. a. Explain 2 efficient ways, using different counting or derived facts strategies, that a student could figure out the sum: 8+7
b. Explain 2 efficient ways, using different counting or derived facts strategies, that a student could use to figure out the difference: 12-9
c. Explain 2 efficient ways, using different counting or derived facts strategies, that a student could use to figure out the product 4×7, assuming the knowledge of the "easy" facts (1's ,2's, 5's and 10's)

12. Give an example of a problem that it would be efficient to solve using each strategy:
A. Count on B. Doubles plus 1 C. Use 10 to subtract
D. Count on from a known fact for a multiplication problem.

13. Tell how many objects there are in base 5:

14. Add in base 5: 243_5+124_5

15. Convert to base 10: 342_5

16. Subtract in base 5: $412_5 - 143_5$

17. Do this problem using the expanded algorithm, and the lattice algorithm: 1587+3469

18. Identify an error pattern or algorithm for addition.