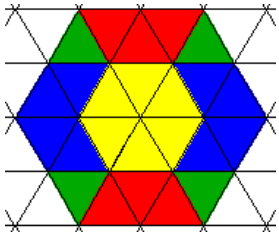
Name:

Fractions with Pattern Blocks

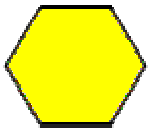
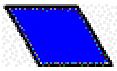


Patterns blocks are sometimes used to examine tessellations (tilings) such as the pattern on the right. In this assignment, we will use pattern blocks to think about fractions and their relationship to the whole. Visit the following site to use virtual pattern blocks:

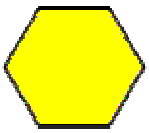
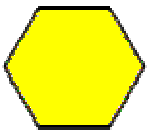
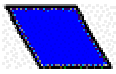
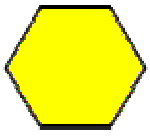
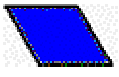
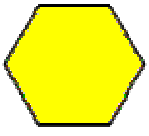
➡ http://www.arcytech.org/java/patterns/patterns_j.shtml

For the following problems, be sure to explain your solutions with words and drawings. You may find it helpful to illustrate your work on the provided grid.

Based on these relations, [1]

1. If  = 1,  = ___ .
2. If  = 1,  = ___ .
3. If  = 1,  = ___ .

Let's do some *really* fun ones.

4. If  +  = 1, what is  ?
5. If  +  = 1, what is  +  ?
6. If  +  = 1, what is  +  ?
7. If  +  = 1, what is  ?

[1] From http://math.rice.edu/~lanius/Patterns/notes.html by Cynthia Lanius

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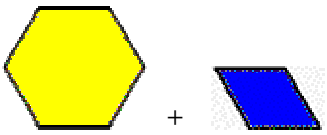
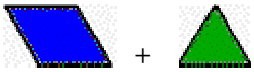
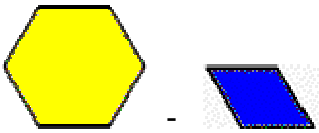
These are a challenge, but fun to figure out!

8. If  = 2/3, what is 1?

9. If  = 4/5, what is 2/5?

10. If  = 3/4, what is 1/2?

11. If  = 1 1/3, what is 2/3?