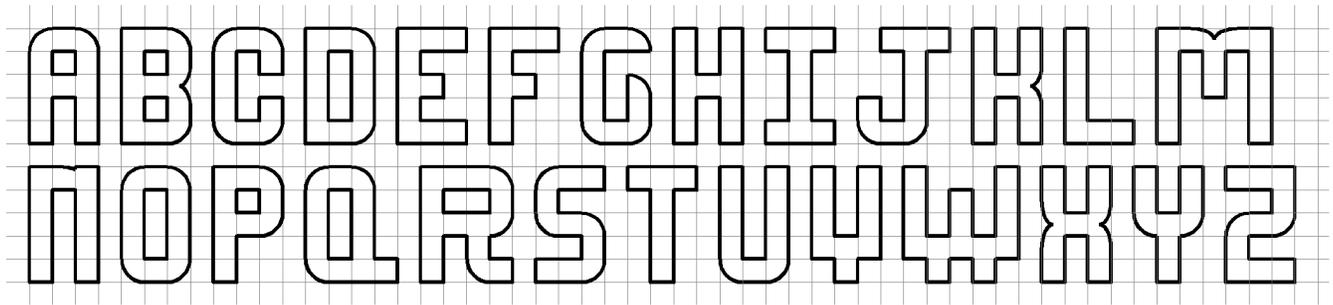


META-PUZZLE

The second use for the acrylic letter pieces that you find involves this Meta-Puzzle. As you collect more and more of the pieces (by solving more and more puzzles), you will see that they interlock with one another. Each piece is one "unit" thick, and most then are designed to fit within a $3 \times 5 \times 1$ rectangle (the J, M, Q, R, W pieces are slightly larger). The number of unit cubes actually required to build each letter-piece varies, but here is a diagram of all the letters:



You'll see that the A-piece is essentially 12 unit cubes stuck together, while the Q-piece is built from 13 cubes (some of the unit cubes are rounded to give the letters their distinct shapes, but you can still see the underlying unit construction). So, each letter has an associated volume, $\text{vol}(A)=12$, $\text{vol}(B)=13$, $\text{vol}(C)=11$, and so forth.

Your goal, in the Meta-Puzzle is to interlock all of the pieces that you find into as small a rectangular box as you can. Supposing you find N letter-pieces, your score for the meta-puzzle will be:

$$N \times \frac{(\text{vol}(\text{pieces you have acquired}))^2}{\text{vol}(\text{smallest bounding rectangular box})}$$

So, get as many pieces as you can (i.e. solve as many puzzles as you can), then interlock them as densely as possible (actually, you do not *have* to use all of your found pieces if you do not wish, but you probably should). There is an online calculator linked from your team's scoreboard that can help you calculate your Meta-Puzzle score at anytime. To get credit for the Meta-Puzzle bring all of your pieces to Eric and show him the blob of interlocked pieces. You may submit multiple answers for the Meta-Puzzle as you improve your score or obtain more letter-pieces, but each time you must show Eric, in person, your current configuration.