



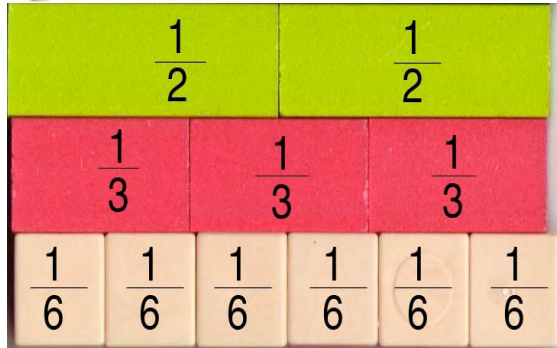
Wandmaking 101:

Wandmaking for Liberal Arts Majors

Marclesberg the Wandsmith uses fractional relationships to design well-balanced wands. **Each wand has properties based on its length and fractional parts.** To begin your studies into basic wandmaking, grab a wand from the box. Use rods of a single color that will combine to match the length of your wand.

How many different single-color lengths can be made for your wand?

Draw your wand and the single-color rod lengths used to match its length. If the length of the wand represents one (one whole) what fraction is each of the segments used to create your lengths?



Wand properties are determined by their careful construction. Can you combine segments from different colors to create the length of your wand? How many combinations can you find? Record up to six combinations for your wand. Don't forget to write an equation (secret formula) for each of your unique wands.

$$\frac{1}{3} + \frac{1}{3} + \frac{1}{6} + \frac{1}{6} = 1$$

Use the pricing chart to calculate the price of each wand you assemble.



It is important to try a variety of wands. What do you notice as you try different lengths? Record your thoughts. This may come in handy when you register for advanced wandmaking.

Advanced Wandmaking 616:

Wandmaking for Wizards

Tomflannery begins his process much the way Marclesberg did. Find a wand and determine the single-color lengths equal to the length of the wand

Here is where things get a little sticky...

Tomflannery noticed that by combining only unit fractions (fractions where the numerator is one) he was sometimes able to magnify the power of the wand.



Adding the unit fractions from the previous example gives us a Tomflannery wand with a value equal to the original.

Combine only one of each unit fraction in your wand's fraction family to make a new length. Add up the fractional parts to determine the length of your creation. This could be less than or greater than one.

If your new wand is less than one its power is diminished. If it is greater than one, its power is magnified. If it is equal to one, the wand is a wash. The more a created wand differs from its original whole, the greater its power is diminished or increased.