

1. To arrange the following fractions in the order from least to greatest:

$$\frac{2}{3} \quad \frac{3}{4} \quad \frac{5}{8} \quad \frac{7}{12} \quad \frac{17}{24}$$

- a. first find the lowest common denominator (in this case it is 24)
- b. convert the fractions by multiplying both the numerator and denominator by the same number. Ex:  $\frac{2 \times 8}{3 \times 8} = \frac{16}{24}$

$$\frac{3}{4} = \frac{18}{24}$$

$$\frac{5}{8} = \frac{15}{24}$$

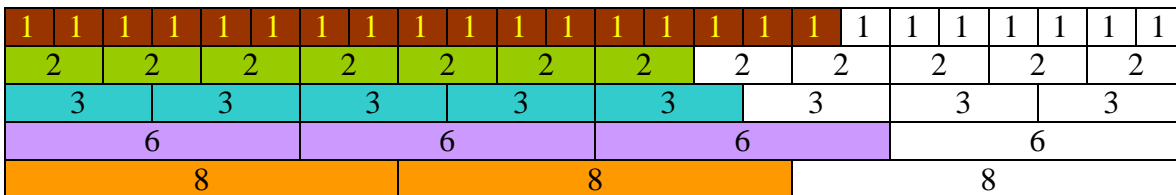
$$\frac{7}{12} = \frac{14}{24}$$

c. then arrange the fractions from least to greatest

$$\frac{14}{24} \quad \frac{15}{24} \quad \frac{16}{24} \quad \frac{17}{24} \quad \frac{18}{24} \quad \text{therefore:} \quad \frac{7}{12} \quad \frac{5}{8} \quad \frac{2}{3} \quad \frac{17}{24} \quad \frac{3}{4}$$

**Another way to approach this problem:**

Have the students color a grid representing each fraction:



This will give them a visual representation of the values of the fractions when compared to one another.

2. Students should assign a brand name for each differently priced pen and color code each brand according to the above chart. Because we are trying to determine which brand of pen would give us the most for our money (\$24.00) we must consider that in this case the term “cheapest” relates to “greatest” and the term “most expensive” relates to “least.” Therefore the cheapest brand of pen would be the one that is equivalent to the fraction whose value is greatest in the group of fractions in the above illustration. With this information we can see that Brand B gives us the best value for our money. If we were to spend the entire \$24 on Brand B we would get 18 pens.

Brand A = 2 for \$3	16 pens
Brand B = 3 for \$4	18 pens
Brand C = 5 for \$8	15 pens
Brand D = 7 for \$12	14 pens
Brand E = 17 for \$24	17 pens

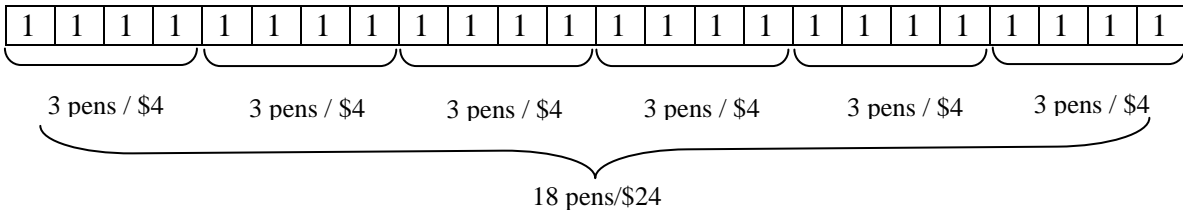
The prices in order from cheapest to most expensive are:  
 3 pens for \$4  
 17 pens for \$24  
 2 pens for \$3  
 5 pens for \$8  
 7 pens for \$12

**Another way to teach this problem:**

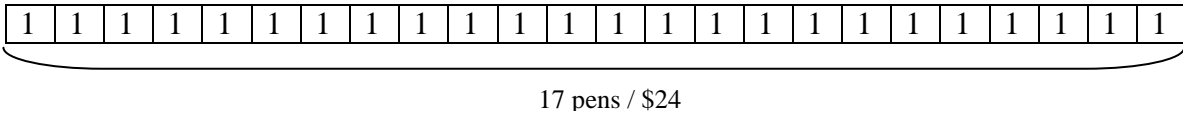
If you didn't have access to the above conversions you could solve the problem this way without using decimals:

- a. divide a cornbread into 24 pieces with each piece representing \$1.  
(you would need one cornbread per fraction or brand)
- b. now assign the dollar amount it costs to buy X amount of pens based on the brand purchased.
- c. split the cornbread into sections until the entire \$24 is spent on each brand.
- d. when finished you will be able to determine which brand offers the most pens per \$24.

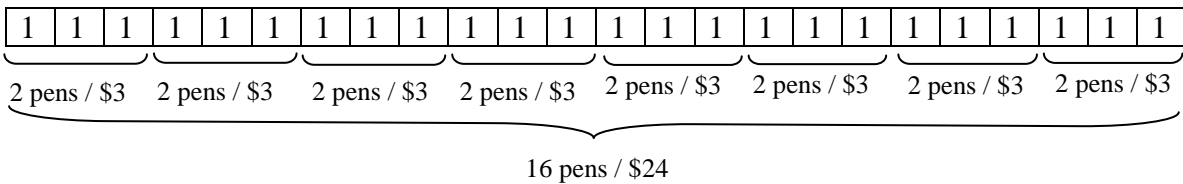
**Brand B**



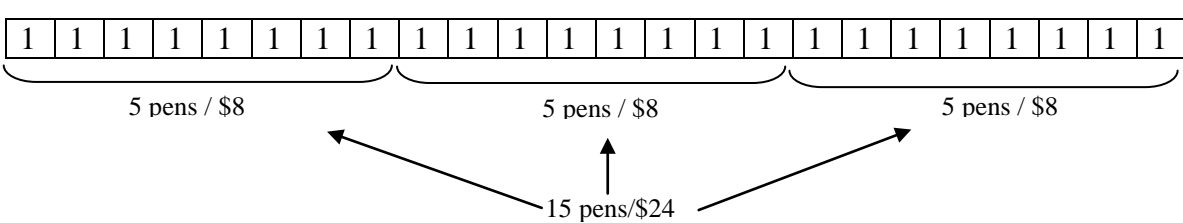
**Brand E**



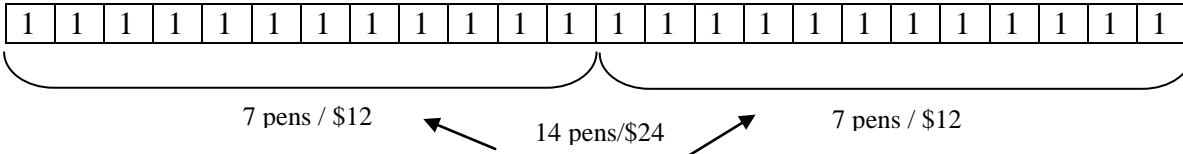
**Brand A**



**Brand C**



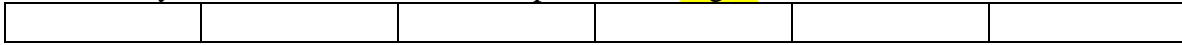
**Brand D**





5. If you want to make only  $\frac{3}{4}$  of the recipe then you only need  $\frac{3}{4}$  of the original amount of sugar.

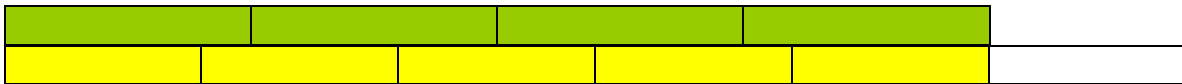
First draw your cornbread in sixths to represent the **sugar**.



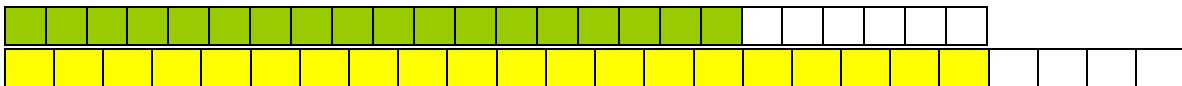
Five sixths is what you need for a full recipe.



We need to find out what  $\frac{3}{4}$  of the  $\frac{5}{6}$ <sup>th</sup> of a cup of sugar is. So now we should break the sugar section into quarters:



Then break down both bars further into 24 even pieces (common denominator)



$\frac{3}{4}$  of the original  $\frac{5}{6}$ <sup>th</sup> of a cup of sugar is  $\frac{15}{24}$ <sup>th</sup> or  $\frac{5}{8}$ <sup>th</sup> of a cup of sugar.

6. a. 1000

b. The answer tells us that  $\frac{1}{100}$  is 1000 times greater than  $\frac{1}{100,000}$ .

7.

<b>RENT</b>	<b>RENT</b>	<b>FOOD</b>		
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a.  $\frac{3}{5}$  of the take home pay is spent on rent and food.

b. Each fifth has a value of \$150 ( $5 \times 150 = 750$ ) so you spent \$450 on rent and food.

c. \$400 remaining would make the value of each square \$200 and  $200 \times 5 = 1000$ .  
The take home pay would be \$1000.