Math 103 SP18 - Lab Worksheet 5
February 22, 2018

1. Exploration 4.13 #1 (a,c,h), #2(b,d,f) (Many answers!)

#2f: I would start with comparing pairs of them and build relations among those pairs, ex.

and \( \frac{1}{8} < \frac{5}{8}, \frac{3}{50} < \frac{3}{49} \)

Since \( \frac{5}{6} > \frac{5}{8} \Rightarrow \frac{1}{8} < \frac{5}{4} < \frac{5}{10} \)

Since \( \frac{3}{49} < \frac{1}{8} \Rightarrow \frac{3}{50} < \frac{3}{49} < \frac{1}{8} < \frac{5}{8} < \frac{5}{10} \)

Now we just need to classify \( \frac{7}{5} \), but \( \frac{1}{8} < \frac{7}{5} < \frac{5}{8} \) so we have \( \frac{3}{50}, \frac{3}{49}, \frac{1}{8}, \frac{7}{5}, \frac{5}{8} \frac{5}{10} \).

2. Exploration 4.14: #1c, #2

### #1c
\[ \frac{3}{4} \]

\[ + \]
\[ \frac{1}{6} \]

To add \( \frac{3}{4} + \frac{1}{6} \) we want equally sized pieces, so we can split \( 3/4 \) in six parts (horizontally) and \( 1/6 \) in four parts (why?) to get equal sized pieces that represent our shaded area.

So our answer is \( \frac{18}{24} + \frac{4}{24} = \frac{22}{24} = \frac{11}{12} \).

3. Exploration 4.15 Part I: #2 (b,c,d), Part 2: (a,c) #2.

### Part I:

#### #2b clb

\[ \frac{3}{4} \]

#### #2c clb

\[ \frac{1}{3} \] (n \( \frac{1}{2} \) )

### Part II:

#### #1a)

\[ \frac{2}{3} \]

### #2
4. Exploration 4.17 (#1 - #3)

Let \[ \square \] represent 1 gallon. Then, \( \frac{2}{3} \) of a gallon is represented by \[ \square \square \square \]. Each time he mows the lawn he uses \( \frac{1}{6} \) of a gallon, which we see that \[ \square \square \square \] so this means he can mow the lawn 4 times.

Using only numbers this is the same as \( \frac{2}{3} \div \frac{1}{6} \). (=4)

5. Exploration 4.14(#1,#3,#5)

\[ a) \text{ Let } \square \text{ represent one juice bottle. We know and } \square \square \text{ apple juice and } \square \square \text{ cherry juice.} \]

\[ b) \text{ to know how much juice there is I need to combine the two } (=4). \]

\[ c) \frac{3}{4} + \frac{1}{6} \]


Many answers! You can describe your thinking for each, in a few words.

Extra Practice Problems:

7. Exploration 4.16: #2

8. Exploration 4.21

9. Exploration 4.23