Decompose Fractions & Mixed Numbers Using Addition Review
*when you decompose a number, you are breaking it into at least 2 parts
*write the decomposition as a sum of fractions
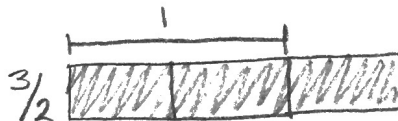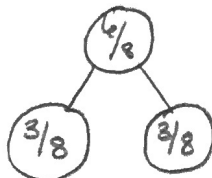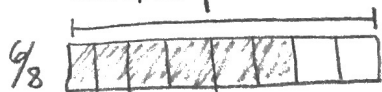*the most basic way to decompose a fraction is into a sum of unit fractions
  *Example: $\frac{6}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
*there are multiple ways to decompose fractions & mixed numbers
  *Example: $\frac{6}{8} = \frac{3}{8} + \frac{3}{8}$ or $\frac{6}{8} = \frac{2}{8} + \frac{4}{8}$
*you can use a tape diagram or number bond to prove your decomposition (remember to define the whole in your tape diagram!!)
  *Example:

Converting between Improper Fractions & Mixed Numbers Review
*if you start with a mixed number, think about how many pieces of the denominator fit into the whole number, then add on the fractional part
  *Example: $5\frac{6}{8}$ ... there are $\frac{40}{8}$ in 5 wholes ... $\frac{40}{8} + \frac{6}{8} = \frac{46}{8}$ OR $\frac{8}{8} + \frac{8}{8} + \frac{8}{8} + \frac{8}{8} + \frac{8}{8} + \frac{6}{8} = \frac{46}{8}$
*if you start with an improper fraction, think about how many groups of the denominator fit into the numerator (this will be your whole number); the leftover pieces that don't equally fit as a group will be the fractional part of your mixed number
  *Example: $\frac{46}{8}$ ... there are 5 equal groups of eighths in 40 with 6 leftover pieces ... $5\frac{6}{8}$
    *you can also think of the fractional line as division: $46 \div 8 = 5$ r 6

Adding Fractions & Mixed Numbers Review
*if they are both fractions, only add the numerators - the denominator tells the unit & will stay the same
*when adding mixed numbers, there are several strategies you could use ...
    *Place value strategy – remember to convert improper fractions as necessary
      *Example:

$$7\frac{6}{8}$$
$$+ \quad 9\frac{4}{8}$$
$$\overline{}$$
$$16\frac{10}{8} \rightarrow 16 + 1\frac{2}{8} = 17\frac{2}{8}$$
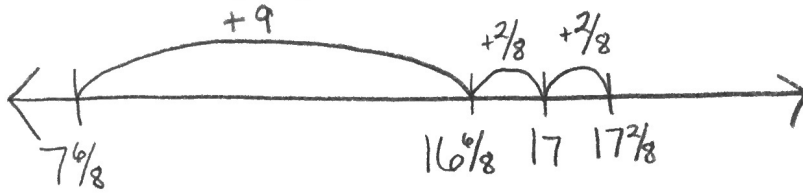
    *Convert both numbers to improper fractions; add; convert the answer back to a mixed number
      *Example:

$$7\frac{6}{8} \quad \rightarrow \quad \frac{62}{8}$$
$$+ \quad 9\frac{4}{8} \quad \rightarrow \quad \frac{76}{8}$$
$$\overline{}$$
$$17\frac{2}{8} \quad \leftarrow \quad \frac{138}{8}$$

*Use a number line; think about landing on whole numbers

*Example: $7\frac{6}{8} + 9\frac{4}{8} = 17\frac{2}{8}$

Subtracting Fractions & Mixed Numbers Review

*if they are both fractions, only subtract the numerators - the denominator tells the unit & will stay the same

*when subtracting mixed numbers, there are several strategies you could use …

　*Place value strategy – regroup a whole & add that form of one to your fraction "place value;" remember to convert improper fractions as necessary

　　*Example:

$$\overset{4}{\cancel{5}}\ \frac{2}{8} + \frac{8}{8} = \frac{10}{8}$$

$$-\ \ 2\frac{6}{8}$$

$$\overline{\ \ \ 2\frac{4}{8}}$$
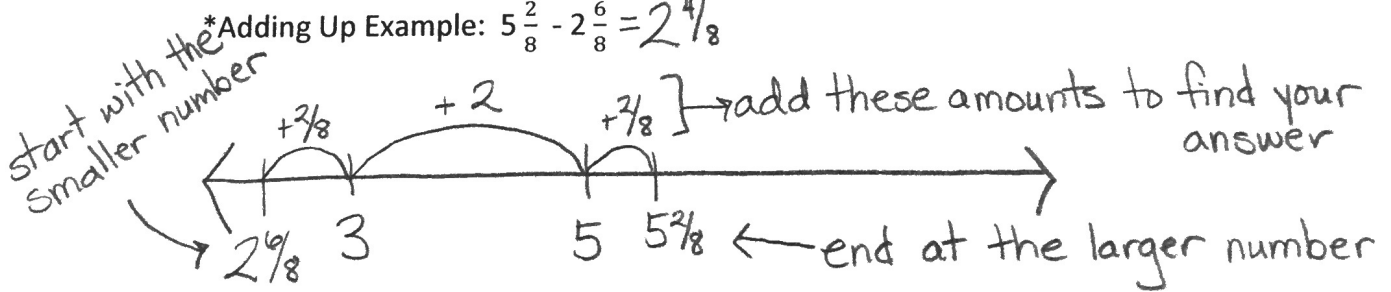
*Convert both numbers to improper fractions; subtract; convert the answer back to a mixed number

　　*Example:

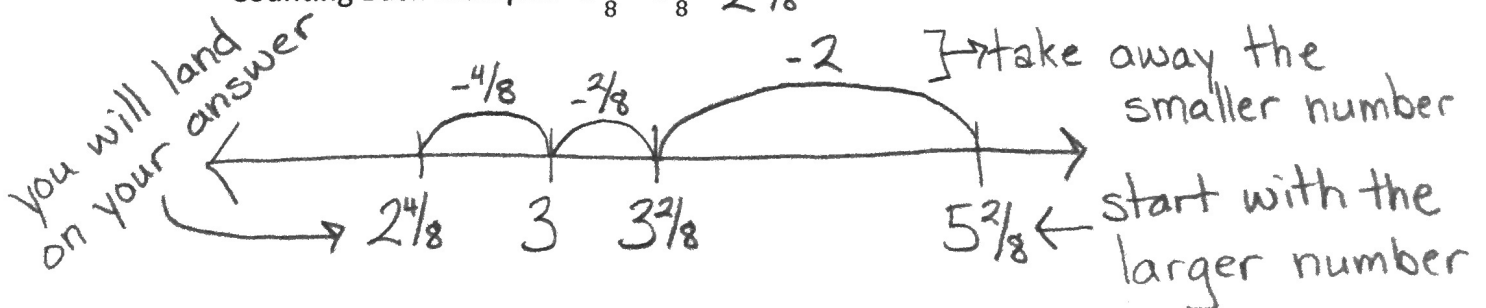$$5\frac{2}{8} \rightarrow \frac{42}{8}$$

$$-\ \ 2\frac{6}{8} \rightarrow \frac{22}{8}$$

$$\overline{\ \ \ 2\frac{4}{8} \leftarrow \frac{20}{8}}$$

*Use a number line; think about landing on whole numbers

*Adding Up Example: $5\frac{2}{8} - 2\frac{6}{8} = 2\frac{4}{8}$

*Counting Back Example: $5\frac{2}{8} - 2\frac{6}{8} = 2\frac{4}{8}$

Decompose Fractions Using Multiplication Review
*when you decompose a number, you are breaking it into 2 factors – a whole number and a fraction
*the most basic way to decompose a fraction is using a unit fraction
 *Example: $\frac{20}{8} = \frac{1}{8} \times 20$
*sometimes there are multiple ways to decompose a fraction
 *Example: $\frac{20}{8} = \frac{2}{8} \times 10$ or $\frac{20}{8} = \frac{5}{8} \times 4$

Multiply Fractions & Mixed Numbers by Whole Numbers Review
*think of the whole number as the number of groups of a particular fraction
 *Example: $4 \times \frac{3}{8}$ can be thought of as 4 groups of $\frac{3}{8}$
*you can think of multiplying a fraction by a whole number in two ways:
 *multiply the whole number by the numerator, keep the denominator the same
  *Example: $4 \times \frac{3}{8} = \frac{12}{8}$
 *write the whole number as a fraction with a denominator of one, multiply the numerators,
 multiply the denominators
  *Example: $\frac{4}{1} \times \frac{3}{8} = \frac{12}{8}$
*there are two strategies for multiplying a mixed number by a whole number:
 *convert the mixed number into an improper fraction & multiply as above
  *Example: $2 \times 3\frac{3}{8} = 2 \times \frac{27}{8} = \frac{54}{8}$ or $6\frac{6}{8}$
 *decompose the mixed number and use the distributive property
  *Example: $2 \times 3\frac{3}{8} = (2 \times 3) + (2 \times \frac{3}{8}) = 6 + \frac{6}{8} = 6\frac{6}{8}$

Creating Line Plots Review
*look at your data set to determine which whole numbers will begin & end your number line
*after writing the whole numbers on your number line, partition each whole the same way (find a common denominator in your data set)
*plot each number on the number line using an "X"
*give your line plot a title that describes the data & a label that gives the unit of measurement for the numbers