



MATH NEWS



Grade 5, Module 3, Topic A

5th Grade Math

Module 3: Addition and Subtraction of Fractions

Math Parent Letter



This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Grade 5 Module 3 of Eureka Math (Engage New York) covers Addition and Subtraction of Fractions. This newsletter will address making equivalent fractions.

Topic A. Equivalent Fractions

Words to know

- Equivalent Fractions
- Numerator
- Vertically
- Denominator
- Horizontally
- Expression

Things to Remember:

- Equivalent Fraction – fractions that have the same value, even though they may look differently. Example: $\frac{1}{2}$ and $\frac{4}{8}$
- Numerator – A number written above the line in a common fraction to indicate the number of parts of the whole
- Denominator – The number below the line in a fraction, indicating the number of equal parts into which one whole is divided.
- Vertically – 
- Horizontally – 

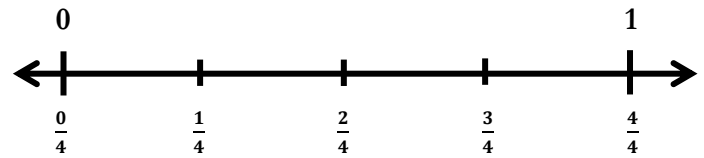
OBJECTIVES OF TOPIC A

- Make equivalent fractions with the number line, the area model, and numbers.
- Make equivalent fractions with sums of fractions with like denominators.

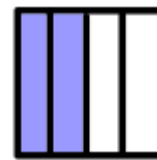
Focus Area– Topic A

Module 3: Addition and Subtraction of Fractions

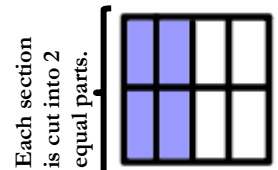
Mark 0 and 1 above the number line and $\frac{0}{4}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ and $\frac{4}{4}$ below the number line.



To find fractions equivalent to $\frac{2}{4}$, draw three **vertical** lines in each rectangle creating four parts. Shade in two sections to create the fraction $\frac{2}{4}$. Now partition with **horizontal** lines to show the **equivalent fractions** $\frac{4}{8}, \frac{6}{12}$, and $\frac{10}{20}$.

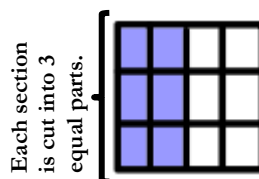


$$\frac{2}{4}$$



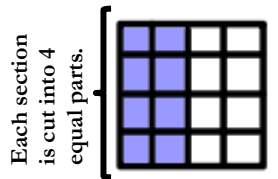
Each section is cut into 2 equal parts.

$$\frac{2}{4} = \frac{2 \times 2}{4 \times 2} = \frac{4}{8}$$



Each section is cut into 3 equal parts.

$$\frac{2}{4} = \frac{2 \times 3}{4 \times 3} = \frac{6}{12}$$



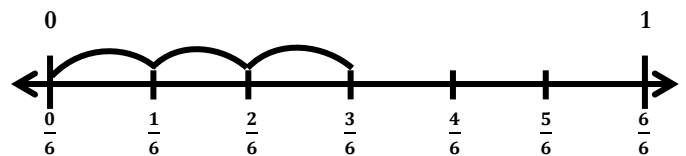
Each section is cut into 4 equal parts.

$$\frac{2}{4} = \frac{2 \times 4}{4 \times 4} = \frac{8}{16}$$



Show the expression on a number line then solve.

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



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

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



Express the fraction as the sum of two or three equal fractional parts. Rewrite each as a multiplication equation.

$$\frac{24}{5} = \frac{12}{5} + \frac{12}{5} \qquad \frac{24}{5} = 2 \times \frac{12}{5}$$

OR

$$\frac{24}{5} = \frac{8}{5} + \frac{8}{5} + \frac{8}{5} \qquad \frac{24}{5} = 3 \times \frac{8}{5}$$



Express each of the following as the **sum of a whole number and a fraction**.

$$\begin{aligned} \frac{14}{3} &= \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{3}{3} + \frac{2}{3} \\ &= 1 + 1 + 1 + 1 + \frac{2}{3} \\ &= 4 + \frac{2}{3} \\ &= 4\frac{2}{3} \end{aligned}$$

$$\begin{aligned} \frac{34}{9} &= \frac{9}{9} + \frac{9}{9} + \frac{9}{9} + \frac{7}{9} \\ &= 3 \times \frac{9}{9} + \frac{7}{9} \\ &= 3 \times 1 + \frac{7}{9} \\ &= 3 + \frac{7}{9} \\ &= 3\frac{7}{9} \end{aligned}$$



Rachel cut six equal lengths of yarn. Each piece was $\frac{4}{7}$ of a foot long. How many feet of yarn did she cut? Express your answer as the sum of a whole number and the remaining fractional part.

$$\frac{4}{7} + \frac{4}{7} + \frac{4}{7} + \frac{4}{7} + \frac{4}{7} + \frac{4}{7} = \frac{24}{7}$$

$$\begin{aligned} \frac{24}{7} &= \frac{7}{7} + \frac{7}{7} + \frac{7}{7} + \frac{3}{7} \\ &= 3 \times \frac{7}{7} + \frac{3}{7} \\ &= 3 \times 1 + \frac{3}{7} \\ &= 3\frac{3}{7} \end{aligned}$$

Rachel cut $3\frac{3}{7}$ feet of yarn.