Lesson 4: Multiplying Fractions

Goals:
- Multiply fractions.
- Simplify the product of fractions.

When multiplying fractions, you just multiply the numerators together, and multiply the denominators together, while following the rules for signs above. We don't need common denominators when we multiply fractions.

- Multiplying numbers with the same sign results in the product being POSITIVE.
- Multiplying numbers that have different signs results in the product being

Example 1 Multiply the following fractions. Simplify answers.

a) $\frac{2}{3}\left(\frac{1}{7}\right) = \frac{2}{21}$

b) $-\frac{3}{5}\left(-\frac{4}{7}\right) = \frac{12}{35}$

c) $\frac{3}{8}\left(-\frac{1}{9}\right) = -\frac{3}{72} \div 3 \Rightarrow -\frac{1}{24}$

d) $\left(-\frac{\cancel{18}^{6}}{3}\right)\left(\frac{4}{\cancel{12}_{4}}\right) = -\frac{72}{36} \Rightarrow -2$

e) $\left(-1\frac{3}{8}\right)\left(-\frac{4}{9}\right)$

$= \left(-\frac{11}{8}\right)\left(-\frac{4}{9}\right)$

$= \frac{44}{72} \div 4$

$= \frac{11}{18}$

f) $\left(-3\frac{1}{3}\right)(-4)$

$= \left(-\frac{10}{3}\right)\left(\frac{-4}{1}\right) \Rightarrow \frac{40}{3}$