Mathematics, Grade 6
Unit VII: Lesson 1   Game: **Tic-Tac-Frac**

Tic-tac-toe is a familiar game. Tic-tac-toe fractions is more complex since you will use the same form, but will fill spaces with addition or subtraction problems whose columns, rows and diagonals evaluate to given answers.

Solve the sample puzzle below. Each section of the tic-tac-frac puzzle contains a subtraction problem. Make good guesses to discover the three problems which match up with the three answers on the right. These problems are in a row, a column, or on a diagonal. Draw a line through the three problems when you find them.

Example:

$$\begin{array}{|c|c|c|} \hline \dfrac{1}{2} - \dfrac{3}{14} & \dfrac{4}{9} - \dfrac{1}{3} & \dfrac{2}{5} - \dfrac{4}{15} \\ \hline \dfrac{3}{4} - \dfrac{2}{3} & \dfrac{6}{7} - \dfrac{1}{3} & \dfrac{3}{5} - \dfrac{1}{3} \\ \hline \dfrac{3}{5} - \dfrac{1}{8} & \dfrac{5}{9} - \dfrac{1}{4} & \dfrac{1}{2} - \dfrac{1}{5} \\ \hline \end{array}$$

The answers are:

$$\dfrac{1}{12} \qquad \dfrac{11}{21} \qquad \dfrac{4}{15}$$

You may wish to have problems with the same answer and make a time limit to mentally calculate the identical answers which make 3 in a row. Be imaginative. Reproduce your game sheets and play it with some friends.