Tic-Tac-Toe

(Area with Fractional Sides)

Materials: Small counters (one color per player), 2 dice

Object of the game: To be the first player to create a line of 3 boxes on any of the three game boards (vertically, horizontally, or diagonally).

Directions: On your turn, roll both dice. Add the dice together and find the rectangle dimensions in the chart. Solve for the area of that rectangle. Then, look for the answer on any of the three game boards below. You may use one of your counters to cover that answer. Only one box may be covered per turn. If there are no available boxes, your turn is over. The first player to cover a line of 3 boxes on any game board with his/her own counters is the winner.

Sum of Dice	Rectangle Dimensions
2	Width: $\frac{1}{2}$ in Length: $3\frac{3}{4}$ in
3	Width: $1\frac{1}{4}$ in Length: 10 in
4	Width: $1\frac{3}{8}$ in Length: $2\frac{1}{8}$ in
5	Width: $2\frac{2}{8}$ in Length: $3\frac{1}{4}$ in
6	Width: 3 in Length: $3\frac{1}{2}$ in
7	Width: $\frac{5}{8}$ in Length: $4\frac{3}{4}$ in

Sum of Dice	Rectangle Dimensions
8	Width: $\frac{5}{16}$ in Length: 5 in
9	Width: $2\frac{1}{2}$ in Length: $2\frac{7}{8}$ in
10	Width: $\frac{1}{4}$ in Length: $\frac{12}{16}$ in
11	Width: $1\frac{1}{8}$ in Length: $1\frac{14}{16}$ in
12	Width: $2\frac{1}{4}$ in Length: 4 in

$1\frac{9}{16}$ in^2	$7\frac{5}{16}$ in^2	$2\frac{7}{64}$ in^2
$1\frac{7}{8}$ in^2	$7\frac{3}{16}$ in^2	$2\frac{59}{64}$ in^2
$10\frac{1}{2}$ in^2	$2\frac{31}{32}$ in^2	$\frac{3}{16}$ in^2

$2\frac{59}{64}$ in^2	$1\frac{9}{16}$ in^2	$7\frac{5}{16}$ in^2
$7\frac{3}{16}$ in^2	$10\frac{1}{2}$ in^2	$2\frac{7}{64}$ in^2
$2\frac{31}{32}$ in^2	$12\frac{1}{2}$ in^2	9 in^2

$12\frac{1}{2}$ in^2	$\frac{3}{16}$ in^2	$1\frac{9}{16}$ in^2
$10\frac{1}{2}$ in^2	$2\frac{31}{32}$ in^2	$1\frac{7}{8}$ in^2
9 in^2	$7\frac{5}{16}$ in^2	$7\frac{3}{16}$ in^2

Tic-Tac-Toe ANSWERS

(Area with Fractional Sides)

Note: The answers to the problems are shown in the charts.

$1\frac{9}{16}$ in^2	$7\frac{5}{16}$ in^2	$2\frac{7}{64}$ in^2
$1\frac{7}{8}$ in^2	$7\frac{3}{16}$ in^2	$2\frac{59}{64}$ in^2
$10\frac{1}{2}$ in^2	$2\frac{31}{32}$ in^2	$\frac{3}{16}$ in^2

Sum of Dice	Rectangle Dimensions
2	$1\frac{7}{8}$ in^2
3	$12\frac{1}{2}$ in^2
4	$2\frac{59}{64}$ in^2
5	$7\frac{5}{16}$ in^2
6	$10\frac{1}{2}$ in^2
7	$2\frac{31}{32}$ in^2

Sum of Dice	Rectangle Dimensions
8	$1\frac{9}{16}$ in^2
9	$7\frac{3}{16}$ in^2
10	$\frac{3}{16}$ in^2
11	$2\frac{7}{64}$ in^2
12	9 in^2

$2\frac{59}{64}$ in^2	$1\frac{9}{16}$ in^2	$7\frac{5}{16}$ in^2
$7\frac{3}{16}$ in^2	$10\frac{1}{2}$ in^2	$2\frac{7}{64}$ in^2
$2\frac{31}{32}$ in^2	$12\frac{1}{2}$ in^2	9 in^2

$12\frac{1}{2}$ in^2	$\frac{3}{16}$ in^2	$1\frac{9}{16}$ in^2
$10\frac{1}{2}$ in^2	$2\frac{31}{32}$ in^2	$1\frac{7}{8}$ in^2
9 in^2	$7\frac{5}{16}$ in^2	$7\frac{3}{16}$ in^2