

Bowling: Roll two dice. Those are your seed numbers. Use any mathematical operation to get the numbers 1 – 10 using only those two numbers. When (if) you get stuck – you get a second roll.

Scoring: After you have exhausted the second roll options – count up the number left (total of the pins) and that is your score for that frame. Low score wins.

Name: _____


1	2	3	4	5	6	7	8	9	10	Total

<p>Frame 1 equations</p>	
<p>Frame 2 equations</p>	
<p>Frame 3 equations</p>	
<p>Frame 4 equations</p>	

Four Fours: Make all the numbers from 1 to 20 using exactly four fours and any mathematical operation. You must use four fours. To extend the problem – expand to the numbers from 1 to 100. Students can expand to 100. Taken from: Jo Boaler [Mathematical Mindsets](#) page 80.

Example: $\frac{\sqrt{4 \cdot 4}}{4} + 4 = 5$

Four 4's Problem



1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20

A similar, and cool, math challenge from the Math Forum:

(<http://mathforum.org/yeargameWorksheets/2019/2019.rules.html>) Use the digits in the year 2019 and the operations +, -, x, ÷, sqrt (square root), ^ (raise to a power), ! (factorial), and !! (double factorial) along with grouping symbols, to write expressions for the counting numbers 1 through 100. This is great for a class to tackle (or a school).

Examples: To get 8: $[(2 * 0) - 1] + 9 = 8$; To get 36: $[(\sqrt{9})!]^2 * 1 - 0 = 36$

Four Fours problem was first printed version was in "Mathematical Recreations and Essays" by W. W. Rouse Ball 6th edition published in 1914.