

Group Bombelli: Find all real roots of the equation,  $\sqrt{x+3-4\sqrt{x-1}} + \sqrt{x+8-6\sqrt{x-1}} = 1$

Group Cardano: Which polynomial with integral coefficients has roots  $\sqrt{2} + \sqrt{3}$  and  $\sqrt{2} + \sqrt[3]{3}$

Group Abel: Find a set of integers  $a, b, c$  such that  $(x-a)(x-10) + 1$  can be written as  $(x+b)(x+c)$

Group Ruffino: Demonstrate that the number,  $2^{1992} - 1$  can be written as the product of six integers greater than  $2^{248}$

Group Tartaglia: If the roots of the equation,  $x^2 + bx + c$  are the squares of the roots of  $x^2 + x + 1$  what are  $b$  &  $c$

Group Del Ferro: Find all the values of  $x$  satisfying the pair of equations:  $x^2 - px + 20 = 0$  and  $x^2 - 20x + p = 0$

Group Abel: **Lauren, Alyssa, Erin**

Group Cardano: Brian, Obie, Devin

Group Tartaglia: Patricia, Alej, Amanda

Group Del Ferro: Alec, Nicole, Dan

Group Ruffino: Jamaal, Andrew, Big Pimpin

Group Bombelli: Petri, Lemens, Kim

All Groups Bonus: Find all solutions to  $\sqrt{9-\sqrt{9+x}} = x$