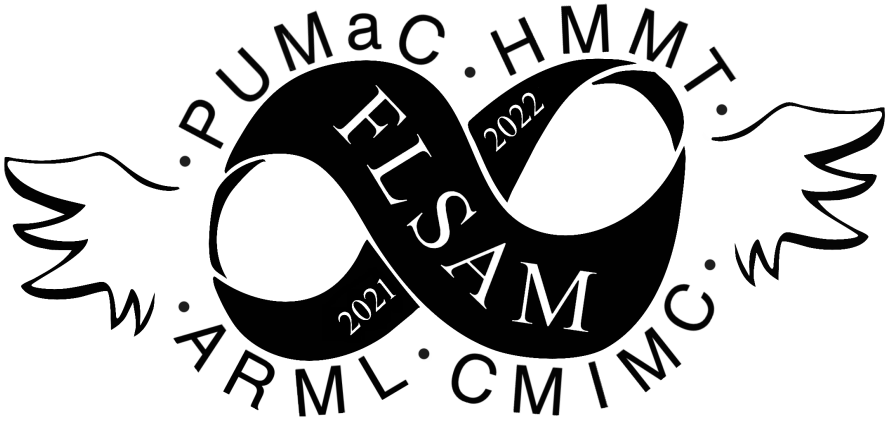
Florida Student Association of Mathematics



2022 ARML Tryout

Set 3 of 7

Welcome to the **2022 FLSAM ARML Tryout!** The tryout will consist of **7 sets** of **2 problems each**. You will have **10 minutes** to work on each set. Write your name and answers directly on each problem set. Scoring is based on the number of correct answers; there is no penalty for wrong answers. Good luck!

Round 3

Name: _____

5. _____ **6.** _____

5. Compute the sum of the distinct prime factors of 163681.

6. Consider the polynomial $x^5 + x^4 + x^3 + x^2 + x + 1$. Suppose $P_n = a^n + b^n + c^n + d^n + e^n$, where a, b, c, d, e are the roots of the polynomial. Find $P_5 + P_4 + P_2 + P_1$.