KU Mathematics and Statistics Competition
Department of Mathematics
University of Kansas

Competition for 3rd-5th Grades
April 10, 2021

INSTRUCTIONS:

- You have **40 minutes** for the **five problems**.

- Show all of the necessary work and **provide a complete justification for each answer**.

- Solve **each problem on a separate sheet of paper**.

- Enclose each **final answer in a box**.

- You are allowed to use a calculator.

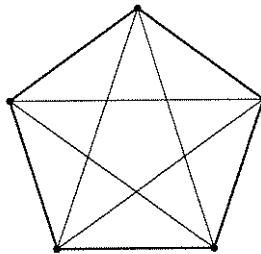# KU Mathematics and Statistics Competition for 3rd-5th Grades
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Problem 1. Find the sum

$$2 - 4 + 6 - 8 + 10 - 12 + \ \ldots\ldots\ 2022$$

You should first figure out if there is a plus or minus sign before 2022.

Problem 2. In three years, I will be half as old as John, and John will be three times my present age. How old is John now?

Problem 3. How many triangles are in this drawing?

Problem 4. Two friends out of four, represented by A, B, C and D, will attend an event. The rules are the following.

- If A goes, then B also needs to go.
- If C does not go, then B also does not go.
- If C goes, then D cannot go.

Who will finally go to the event?

Problem 5. Ten exactly the same pencils are given to three children. Every child will receive at least one pencil. In how many ways can you distribute these ten pencils?