

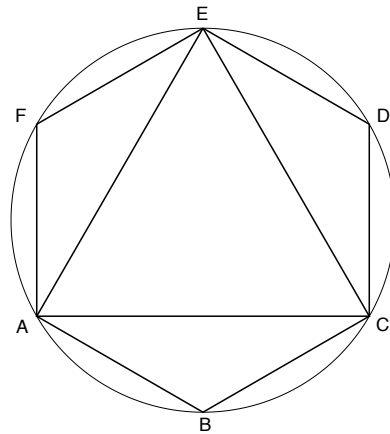
Math Awareness Week Competition  
2007 Examination for 5th-6th Grades

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**DIRECTIONS:** [40 Minutes - 5 Questions] Start each new problem on a separate page. **Show your work!** Answers must be exact. You are allowed to use a calculator. You are not allowed to borrow or interchange calculators during the test.

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1. In how many different ways can the number 50 be represented as the sum of two even positive numbers?
2. Can you divide the numbers from 1 to 10 into two groups such that the sum of the numbers in the first group is the same as the sum of the numbers in the second group? Explain why.
3. In the picture below, what is the area of the equilateral triangle ACE as a fraction of the area of the regular hexagon ABCDEF?



4. In the Johnes family there is a father, a mother, a daughter and a son. The sum of their ages now is 73. The father is 3 years older than the mother and the daughter is 2 years older than the son. Four years ago, the sum of their ages was 58. How old is each of them now?
5. The road from town A to town B consists of uphill and downhill only (no flat portions). A biker travels uphill with 12 miles/hour and downhill with 30 miles/hour. From A to B it took him 3 hours, but from B to A it took him 10 minutes less. What is the distance from A to B?