

2nd Annual

Math Invitational

4Girls

Saturday, April 23, 2016

Sponsored By



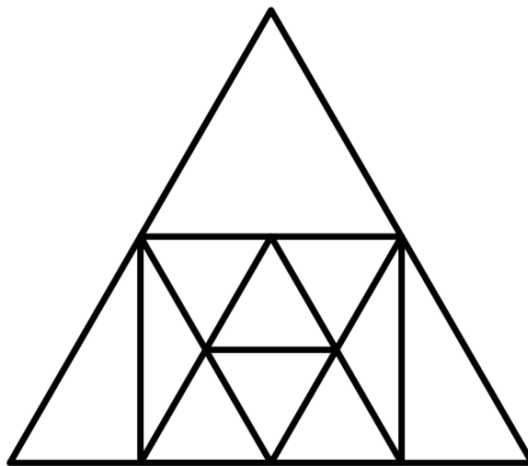
Team Name: _____

Team Members: _____

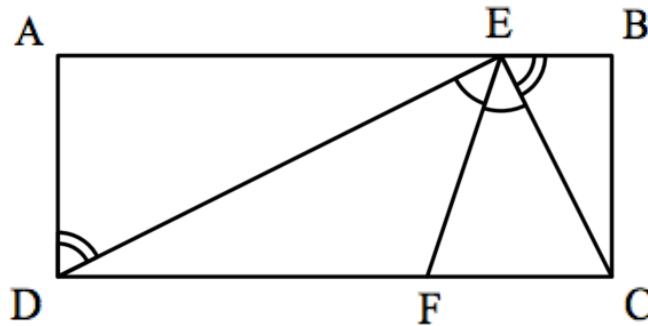


2016 MIG Team Round

1. _____ Johnny has 5 apples. His mother gives him 8 oranges. Johnny eats 5 of these oranges, and then gives his sister, Corrine, 2 of his apples. How many pieces of fruit does he have left?
2. _____ Haysonne has a number of quarters, dimes, nickels, and pennies, which total to \$2.05. If his dimes were quarters and his quarters dimes, and his nickels were pennies and his pennies nickels, his total would be \$2.23. He has two more nickels than dimes and one more penny than quarters. How many nickels does Haysonne have?
3. _____ Angela is thinking of a perfect square. Her number contains three distinct digits, and when the tens and ones digits are flipped, the resulting number is a greater perfect square. What perfect square is Angela thinking of?
4. _____ Luis is a glue manufacturer. He can make one whole block of glue in five hours by himself. Marco can manufacture the same amount in three hours. How long would it take them to manufacture five blocks of glue working together at their same usual rates? Express your answer as a mixed fraction.
5. _____ How many triangles are in the following diagram?



6. _____ In rectangle ABCD, the length of AD is 8 and the length of AB is 20. Angles ADE and BEC are congruent, and angles DEF and FEC are congruent. What is the length of DF multiplied by the length of FC? Express your answer as a common fraction.



7. _____ On Monday, John receives 100 dollars from his father. Over the next week, everyday there is a 50% chance he will receive a gift of 10 dollars from a magical Shamu. What is the probability that at the end of the week, John will have exactly 130 dollars?
8. _____ John creates a grid that has 2 columns and 3 rows. He wants to place the numbers 1 through 6 in this grid, with the numbers strictly increasing downwards and to the left. How many distinct grids could he create?
9. _____ The four vertices of a rectangle are also the vertices of a regular hexagon of side length 3. What is the area of the rectangle? Express your answer in simplest radical form.
10. _____ In Amy's area, phone numbers can have 6 digits with each digit ranging from 0 to 9. Bill can only remember 5 of the 6 digits of Amy's phone number. Bill doesn't remember which digit he forgot nor its position in her phone number, but he remembers the order of the digits he does recall. How many different phone numbers would Bill have to dial in order to ensure that he dials Amy's number?