C M L

NAME _____ *MEET 1 PYTHAGOREAN DIVISION NOVEMBER 8, 2001 GRADE 9*

Directions: Place your answer to each question below in the answer column.

1) The sum of the perimeters of two squares is equal to the perimeter of a rectangle whose dimensions are 10" x 12". If the area of one of the squares is 36 sq.in., then the area of the other square is _____ sq.in.

1) _____

2) $[x,y,z]$ means $x^2 - 2\sqrt{y} + \frac{xy}{z}$. If $[5,9,z] = 34$, then $z =$ _____?

2) _____

3) $F = 5a^2 b^3 t$. If a is multiplied by 2, b is cut in half and t is tripled, then the new value for F is _____ times the original value of F.

a) $\frac{3}{2}$ b) 2   c) $\frac{5}{2}$ d) 3   e) $\frac{7}{2}$

3) _____

4) Nine numbers have a median of 10. The largest number is 12 and the smallest is 6. What is the difference between the largest possible <u>mean</u> and the smallest possible <u>mean</u> for these 9 numbers?

4) _____

5) At a reception $\frac{2}{3}$ of the men were married and $\frac{3}{5}$ of the women were married. All spouses were at the reception. What <u>fractional</u> part of the people at the reception were single?

5) _____

6) I   II   III
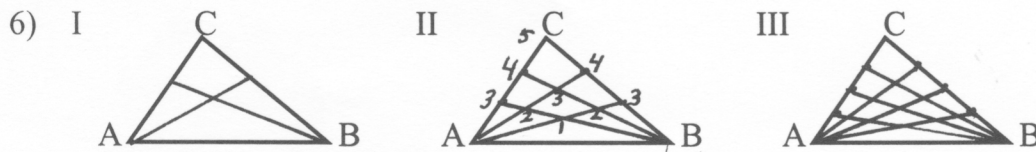
In triangles ABC crossing lines are drawn from A and B to the opposite sides forming many more triangles. A method is given for counting the total number of triangles in each figure using the middle figure as an example. The lowest crossing point is numbered 1, then going right or left and <u>up along</u> the lines the next crossing points are numbered 1 more until C is reached. Add the numbers: $1 + 2 + 2 + 3 + 3 + 3 + 4 + 4 + 5 = 27$. There are 27 triangles. Find the number of triangles in figures I and III.

6) _____