

**M** MEET 1 PYTHAGOREAN DIVISION NOVEMBER 8, 2001 SOLUTIONS GRADE 9

The answer to each question is in parentheses at the beginning of each solution.

- 1) (25) The perimeter of the rectangle is  $2 \times 10'' + 2 \times 12'' = 44''$ . If the area of one of the squares is 36 sq.in., then a side of the square is 6'' and its perimeter is 24''.  $44'' - 24'' = 20''$  is the perimeter of the other square. Its side is 5'' and its area is 25 sq.in.

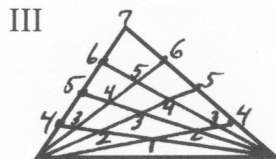
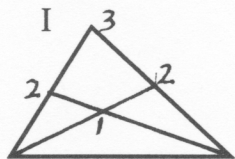
2) (3)  $25 - 2\sqrt{9} + \frac{45}{z} = 34$ .  $25 - 6 + 15 = 34$ . Thus  $z = 3$ .

3) (a or  $\frac{3}{2}$ )  $5(2a)^2 (\frac{b}{2})^3 (3t) = 5(4a^2) (\frac{b^3}{8}) (3t) = \frac{15}{2} a^2 b^3 t$  or  $\frac{3}{2}$  times the original number.

4) (2) Largest: 12, 12, 12, 12, 10, 10, 10, 10, 6. Mean =  $\frac{94}{9}$ .  
Smallest: 12, 10, 10, 10, 10, 6, 6, 6, 6. Mean =  $\frac{76}{9}$ .  $\frac{94}{9} - \frac{76}{9} = \frac{18}{9} = 2$ .

5) ( $\frac{7}{19}$ ) Let  $x$  = number of males. Let  $y$  = number females.  $\frac{2}{3}x = \frac{3}{5}y$ ;  $y = \frac{10}{9}x$ . Total number of people at the party were  $x + y = \frac{19}{9}x$ . Total single people were  $\frac{1}{3}x + \frac{2}{5}y = \frac{7}{9}x$ .  
 $\frac{7}{9}x \div \frac{19}{9}x = \frac{7}{19}$ .

- 6) (I: 8, III: 64)



$1 + 2 + 2 + 3 = 8$ .  $1 + 2 + 2 + 3 + 3 + 3 + 4 + 4 + 4 + 4 + 5 + 5 + 5 + 6 + 6 + 7 = 64$ .