MEET 4 PYTHAGOREAN DIVISION FEB. 5, 1998 GRADE 9 SOLUTIONS

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

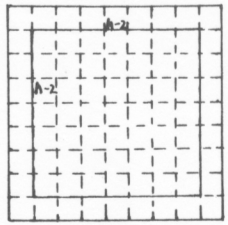
1) (16) $\sqrt{4} + \sqrt{4x} + \sqrt{x} = 14$; $2 + 2\sqrt{x} + \sqrt{x} = 14$; $3\sqrt{x} = 12$; $\sqrt{x} = 4$; $x = 16$.

2) ($\frac{10}{21}$) If $\frac{x}{y} = \frac{2}{7}$, then $7x = 2y$. If $\frac{y}{z} = \frac{5}{3}$, then $3y = 5z$. To get a relationship between x and z, we need $21x = 6y = 10z$. If $21x = 10z$, then $\frac{x}{z} = \frac{10}{21}$ (need $21x = 10z$).

3) (12π) The area of circle Y is $6 \times 6\pi = 36\pi$. The radius of circle Y is 6 and the circumference is 12π .

4) (81) $\frac{3}{4} + \frac{1}{12} = \frac{10}{12} = \frac{5}{6}$. The 18 miles is $\frac{1}{6}$ of the trip. The entire distance is 108 miles (18 x 6). $\frac{3}{4}$ of 108 = 81 miles at 50 m.p.h.

5) (b or n^2-4n+4) The unshaded squares would be $(n-2)(n-2) = n^2-4n+4$.



6) ((7,2)(4,7)(1,12)) Subtracting multiples of 5 from 41 leaves 36, 31, 26, 21, 16, 11, 6, 1. Of these 36, 21, 6 are divisible by 3.