# P9-3

MEET 3 PYTHAGOREAN DIVISION JAN. 8, 1998 GRADE 9 SOLUTIONS

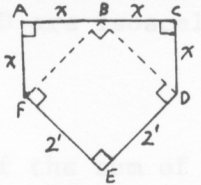
The answer to each question is in parenthesis at the beginning of each solution.

1) $(\frac{5}{16})$ $\frac{1}{5}x = \frac{1}{4}$ ; $x = \frac{5}{4}$ ; $\frac{1}{4}$ of $\frac{5}{4}$ is $\frac{5}{16}$ .

2) (12) $\sqrt{36} = 6$ ; $\frac{1}{3}(6) + 1 = 3$ ; $9 + 3 = 12$ .

3) (496) $\sqrt{(496-1)(496+1)+1} = \sqrt{(496^2-1)+1} = \sqrt{496^2} = 496$ .

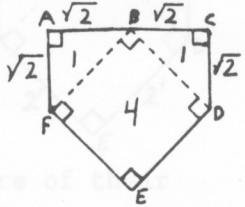
4) (6)




$2x^2 = 4$

$x^2 = 2$

$x = \sqrt{2}$ .




5) (3) $(x+y)^2 - (x-y)^2 = x^2+2xy+y^2 - (x^2-2xy+y^2) = 4xy = 12$ . So, $xy = 3$ .

6) (142857) $\frac{1}{7} = .\overline{142857}$ . If 142857 is multiplied by 1, 2, 3, 4, 5 or 6 all the products will contain only the digits in 142857. (Any 6-digit number with these 6 digits is acceptable.)