



NAME \_\_\_\_\_ MEET 1 PYTHAGOREAN DIVISION NOVEMBER 7, 2002 GRADE 9  
30 MINUTES  
ANSWER COLUMN

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

- 1) If  $x \Delta y = \frac{xy}{x+y}$ , then  $a \Delta (a \Delta a) =$  \_\_\_\_\_.
- a)  $a^3$       b)  $a^2$       c)  $\frac{a}{2}$       d)  $\frac{a}{3}$       e)  $\frac{a^2}{2}$       1) \_\_\_\_\_
- 2) The digital root of a number is found by adding its digits together until you get a one-digit whole number. For example, the digital root of 56 is  $5 + 6 = 11$ ,  $1 + 1 = 2$ ;  $dR(56) = 2$ . Which number has the smallest digital root?
- a) 50      b) 47      c) 22      d) 39      e) 85      2) \_\_\_\_\_
- 3)  $a^*$  means the reciprocal of  $a$ . Find  $a$  if  $a^* = 4^* + 5^* + 20^*$ .      3) \_\_\_\_\_
- 4) If  $(x - 9)^{x-7} = 1$ , find the two values of  $x$  that satisfy the equation.      4) \_\_\_\_\_
- 5) A piling down at the wharf is 69 feet long. Part of the piling is in the ground under the water, part in the water and part above the water. The water is 12 ft. deep. The part of the piling above the water is 3 ft. more than 5 times the part that is in the ground under the water. How many feet of piling is above the water?      5) \_\_\_\_\_
- 6) Marla and Lynn ran against each other in a race. When Marla had run 100 yards, Lynn had run 95 yards. If they both continued at their same speeds, then how far was Marla ahead of Lynn when Marla had reached 220 yards?      6) \_\_\_\_\_