

NAME \_\_\_\_\_

PYTHAGOREAN DIVISION

MEET 2

DECEMBER 4, 2014

GRADE 4

30 MINUTES

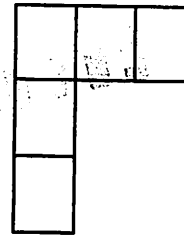
ANSWER COLUMN

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

- 1)  $a \Delta b$  means  $(a \times b) - a$ . For example,  $5 \Delta 3 = (5 \times 3) - 5 = 15 - 5 = 10$ . Find the value of  $(7 \Delta 3) \Delta 2$  in simplest form.

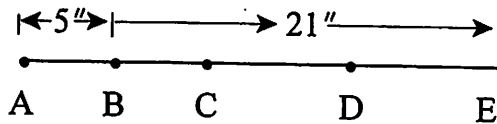
1) \_\_\_\_\_

- 2) How many rectangles are there in the figure at the right?



2) \_\_\_\_\_

- 3) The Points A, B, C, D, E are on a straight line, as shown. If Point B is as far from Point C as it is from Point A and Point D is as far from Point C as it is from Point E, then the distance from Point B to Point D is \_\_\_\_\_".

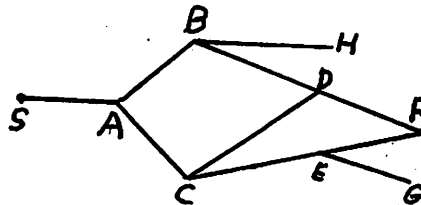


3) \_\_\_\_\_

- 4) Tom is 8 years older than Kenny. Kenny is 2 years older than Mary. Mary is 7 years younger than Barbara. If Barbara is 16 years old, then Tom is \_\_\_\_\_ years older than Barbara.

4) \_\_\_\_\_

- 5) Marbles are released through this network from S and continue flowing to the right. At each of the junctions, half the marbles flow in each direction. If 120 marbles are released through the network, how many of the 120 marbles do not reach F?



5) \_\_\_\_\_

- 6) "Widgets" cost \$9 each and "gidgets" cost \$6 each. Kiaera and Jahleel each spent \$75 for "widgets" and "gidgets". Kiaera bought the most "widgets" and the fewest "gidgets" possible. Jahleel bought the most "gidgets" and the fewest "widgets" possible. Kiaera bought \_\_\_\_\_ more widgets than Jahleel.

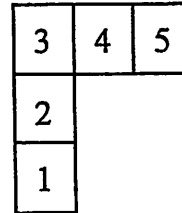
6) \_\_\_\_\_

**C** M PYTHAGOREAN DIVISION MEET 2 DECEMBER 4, 2014 SOLUTIONS GRADE 4

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

1) (14)  $7 \Delta 3 = (7 \times 3) - 7 = 21 - 7 = 14$ .  $14 \Delta 2 = (14 \times 2) - 14 = 28 - 14 = 14$ .

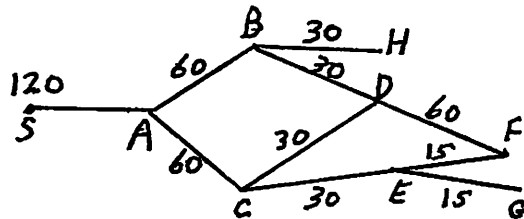
2) (11) By numbering the sections, the 11 rectangles are 1, 2, 3, 4, 5, 1 & 2, 2 & 3, 1 & 2 & 3, 3 & 4, 4 & 5, 3 & 4 & 5.



3) (13)  $BC = 5''$  also. That makes  $CE = 16''$ . If  $BC = 5''$  and  $CD = 8''$  (half of  $16''$ ), then  $BD = 13''$ .

4) (3) If Barbara is 16, then Mary is 9 and Kenny is 11 years old. Tom is  $11 + 8 = 19$  years old and 3 years older than Barbara ( $19 - 16 = 3$ ).

5) (45) Seventy-five, 75, marbles arrive at F.  $120 - 75 = 45$  do not.



6) (6) To find the most "widgets" keep subtracting \$6 from \$75 until you reach an amount divisible by \$9.  $\$75 - \$6 = \$69$ .  $\$69 - \$6 = \$63$ . Kiaera bought 7 "widgets" at \$9 each (\$63) and 2 "gidgets" at \$6 each (\$12).  $\$63 + \$12 = \$75$ . To find the most "gidgets" keep subtracting \$9 from \$75 until you reach an amount divisible by \$6.  $\$75 - \$9 = \$66$ . Jahleel bought 11 "gidgets" at \$6 each (\$66) and 1 "widget" at \$9.  $\$66 + \$9 = \$75$ . Kiaera bought 6 more "widgets" than Jahleel ( $7 - 1 = 6$ ).