

SUNSHINE MATH - 8

Pluto, XXIV

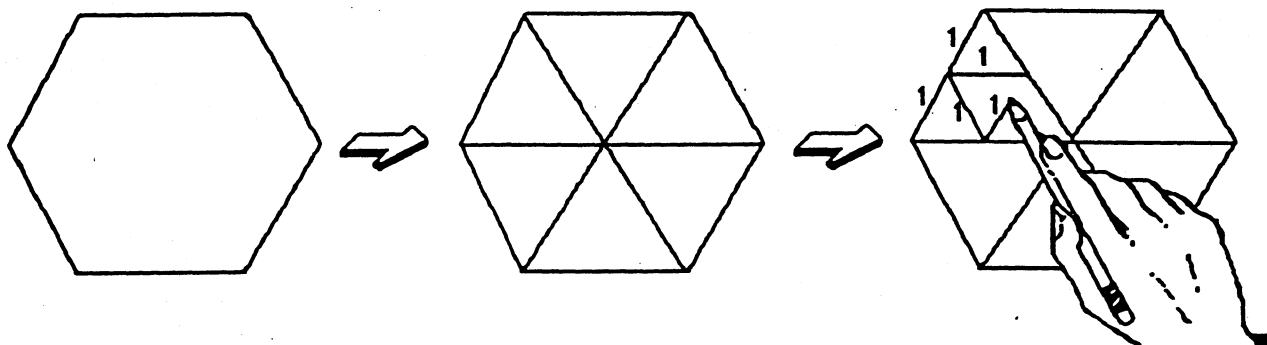
Name: _____

(This shows my own thinking.)

★★★ 1. A regular hexagon can be divided into six equilateral triangles by connecting the opposite vertices.

a) If the side of the original hexagon is 2 inches, how many non-overlapping equilateral triangles with sides of 1 inch can be drawn inside the hexagon? Answer: _____

b) If the side of the original hexagon is 4 inches, how many equilateral triangles with sides of 1 inch can be drawn? Answer: _____



★★★ 2. The volume of a sphere is given by $V = \frac{4}{3}\pi r^3$. The earth's radius is about 4000 miles. The sun's radius is about 433,000 miles. Answer (a) and (b) below using scientific notation:

a. What is the approximate volume of the earth? _____ mi^3

b. What is the approximate volume of the sun? _____ mi^3

c. How many earths would fill up the sun? _____

★ 3. Justin has 13 coins in his pocket that total \$1. What coins does he have?

Answer: ___ pennies, ___ nickels, ___ dimes, ___ quarters



- ★★ 4. A fast stamp machine can make 360 stamps in 3 seconds. How many stamps can such a machine make in a normal, eight hour workday?



Answer : _____ stamps

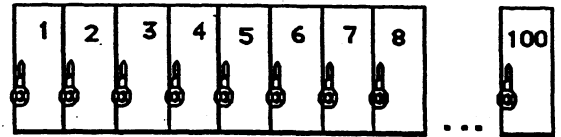
- ★★★★ 5. The school policy is to open student lockers regularly to check for illegal items. The following pattern is followed from September through May:

September: Open {2, 4, 6, 8, ..., 2n, ...}

October: Open {3, 6, 9, 12, ..., 3n, ...}

November: Open {4, 8, 12, 16, ..., 4n, ...}

December: Open {5, 10, 15, 20, ..., 5n, ...}



- a. Which locker would be opened most often? _____
- b. Which lockers from 1-100 would never be opened? _____

- ★★ 6. Juanita spent half of her money on a new skirt. She then spent half of the remaining amount on a new blouse and lunch. If she had \$11.00 left at the end of the day, how much money did she start with?

Answer : \$ _____

- ★ 7. A sign in a department store says, "Sale! All C.D. players are now 25 % off!" George wants a C.D. player that was originally \$240.00. He can calculate the price he has to pay by multiplying \$240 by which fraction?



Answer : _____