

MATH SUPERSTARS - 6

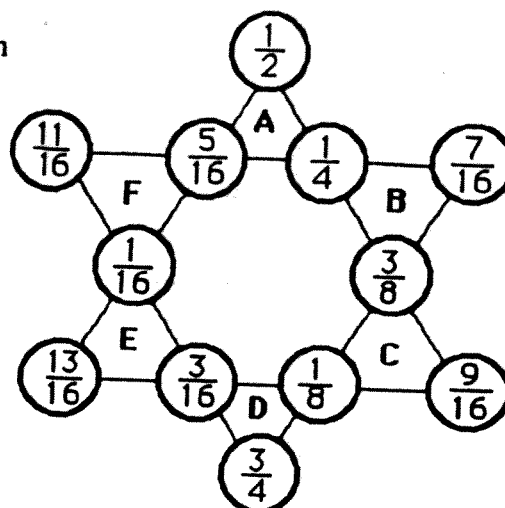
Uranus, XVII

Name: _____

(This shows my own thinking.)

- ★★ 1. The star at the right is a "magic star."
All fractions in each straight line have the same sum. What is the magic sum?

Answer: _____



- ★★ 2. Add the fractions at the corners of the two large triangles. First, add the fractions $\frac{1}{2} + \frac{13}{16} + \frac{9}{16}$. Next, add $\frac{11}{16} + \frac{7}{16} + \frac{3}{4}$. What is the magic sum?

Answer: _____

- ★★ 3. Finally, add the fractions at the corners of small triangle A: $\frac{1}{2} + \frac{5}{16} + \frac{1}{4}$. Then add the fractions at the corners of each of the triangles marked B, C, D, E, and F. What is the sum of each small triangle?

Answer: _____

- ★★★ 4. Replace the letters $a - j$ with the digits 0 - 9 to make each of these equations true. You may use each digit only one time.

a) $a + 2 + 5 = 8$

b) $6(b - 8) = 6$

c) $8 + (c + 4) = d$

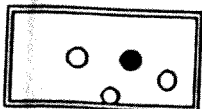
d) $6 + e \times f = 30$

e) $2(g - h) = 10$

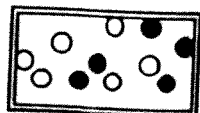
f) $3i + j = 15$

$a = \underline{\quad}; b = \underline{\quad}; c = \underline{\quad}; d = \underline{\quad}; e = \underline{\quad}; f = \underline{\quad}; g = \underline{\quad}; h = \underline{\quad}; i = \underline{\quad}; j = \underline{\quad}$

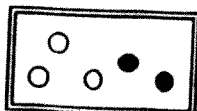
- ★★ 5. Rhonda went to a party where they were drawing marbles out of a box for prizes. The player wins if she draws out a black marble on the first draw. Circle the box below that would give Rhonda the best chance of winning.



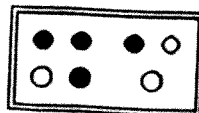
A



B



C



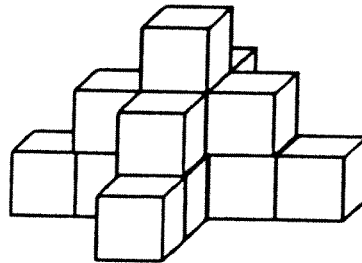
D

- ★ 6. Mrs. Walker bought a board 30 inches long for a class project. She needs to cut it into 1-inch pieces so that each student in her class will have a piece. How many cuts are required?

Answer: _____ cuts

- ★★ 7. Joaquin made the figure below by stacking up centimeter cubes. The figure looks this same way when viewed from the back side. What is the volume of the figure?

Answer: ____ cubic centimeters



- ★★ 8. Fill in the blanks in the numbers below with the largest digit possible to make each statement true.

a) 4, __ 2 3 is divisible by 3. b) 2 __, 9 3 6 is divisible by 9.

- ★★ 9. The "unit fractions" are those whose numerator is 1, such as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$ and so on. Find three different unit fractions whose sum is a whole number.

Answer: _____

- ★★ 10. Jessie's total score after 3 games of bowling was 456. If she scored 132 in the fourth and final game, what was her average score per game?

Answer: _____