

# MATH SUPERSTARS – 5

Saturn, XXII

Name: \_\_\_\_\_

(This shows my own thinking.)

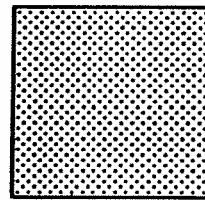
- ★★ 1. Let  $p$  stand for the weight of a whole pie. The equation  $\frac{3}{4}p = 30$  shows the situation on the scale. How much did the whole pie weigh? Use your number sense.



Answer:  $p =$  \_\_\_\_\_

- ★★ 2. A square inch is shown to the right.

Bubble-in the best estimate below of the area, in square inches, of this sheet of paper.



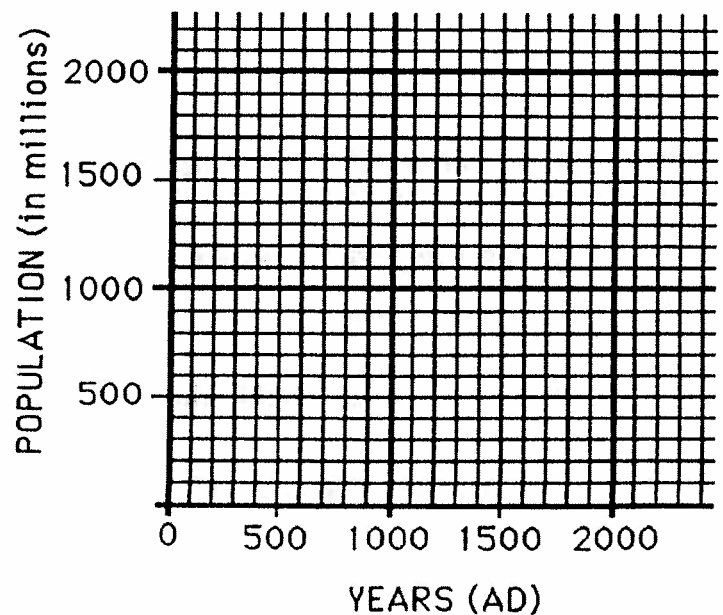
50 in<sup>2</sup>    90 in<sup>2</sup>

125 in<sup>2</sup>    150 in<sup>2</sup>

- ★★ 3. Make a line graph of the world population figures shown below. Use the graph paper to the right. Then answer this question: *If the population continues to increase as the graph shows, what will it be in 2000 AD?* \_\_\_\_\_

*World Population*

<u>Year (AD):</u>	<u>Population (millions):</u>
1	300
1000	350
1600	450
1700	700
1800	1,000
1900	1,700



- ★★★★ 4. A machine changes the first number into the second number. Study the pattern and predict the rule the machine uses to change one number into another.

1	fi	7
2	fi	10
3	fi	13
.	.	.
10	fi	34
.	.	.
100	fi	304

- a. What will the machine produce for 40? \_\_\_\_\_
- b. What will the machine produce for 50? \_\_\_\_\_
- c. The machine produced 904. What number did it start with? \_\_\_\_\_
- d. Describe the way the machine changes a number  $n$ :  
\_\_\_\_\_

- ★★ 5. There are about 3,400 species of frogs and toads, and scientists tell us that they represent 90% of the amphibians in the world. Using this information, what is the total number of amphibian species scientists believe are in the world. (Round your answer to the nearest 100.)

Answer : \_\_\_\_\_

- ★★ 6. Suzanne ordered a sandwich and a soda. The total, plus tax, came to \$4.76. Suzanne gave the clerk \$5.01. What is a good reason for Suzanne to give the clerk the extra penny?

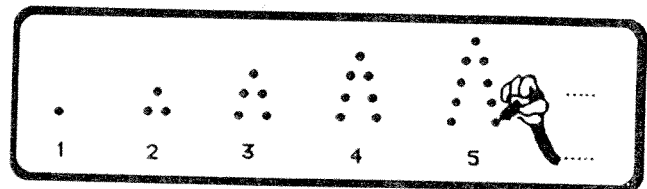
Answer: \_\_\_\_\_

- ★★★ 7. The missing digits for this problem are 0, 2, 4, 6, and 8. Put them in their correct boxes.

$$\square \square \square \square \times \square = 32,208$$

- ★★★★ 8. Draw this pattern on scratch paper.

- a. How many dots in the next 3 figures?  
\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_



- b. How many dots for the 50th figure? \_\_\_\_\_
- c. How many dots for the 1000th figure? \_\_\_\_\_