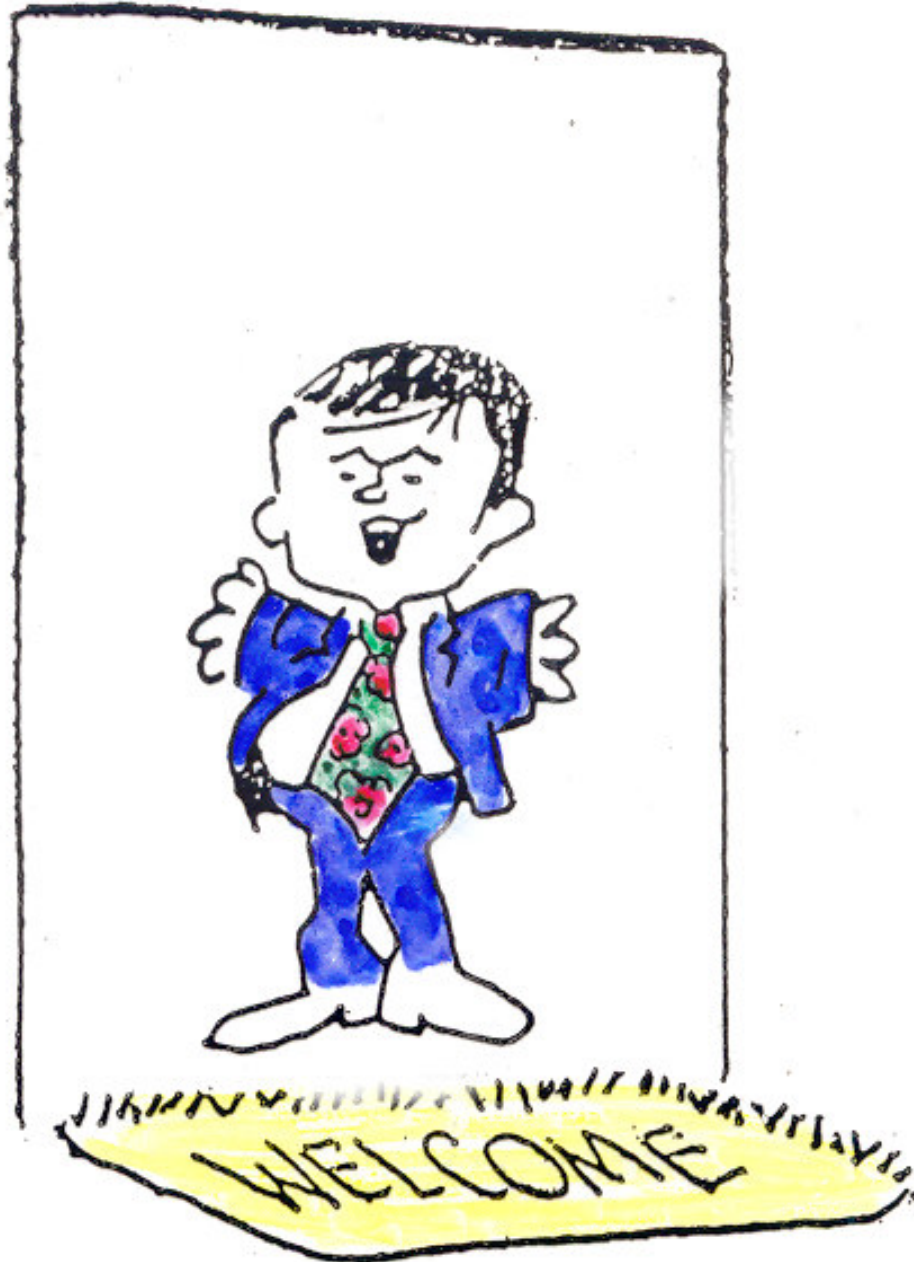


# TRANSPARENCY MASTERS

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# THE NATURE OF MATHEMATICS



# MATH ANXIETY



## Math Anxiety Bill of Rights\*

by Sandra L. Davis

1. I have the right to learn at my own pace and not feel put down or stupid if I'm slower than someone else.
2. I have the right to ask whatever questions I have.
3. I have the right to need extra help.
4. I have the right to ask a teacher or TA for help.
5. I have the right to say I don't understand.
6. I have the right not to understand.
7. I have the right to feel good about myself regardless of my abilities in math.
8. I have the right not to base my self-worth on my math skills.
9. I have the right to view myself as capable of learning math.
10. I have the right to evaluate my math instructors and how they teach.
11. I have the right to relax.
12. I have the right to be treated as a competent adult.
13. I have the right to dislike math.
14. I have the right to define success in my own terms.

\*From *Overcoming Math Anxiety*, by Sheila Tobias, pp. 236-237.

Transparency 2

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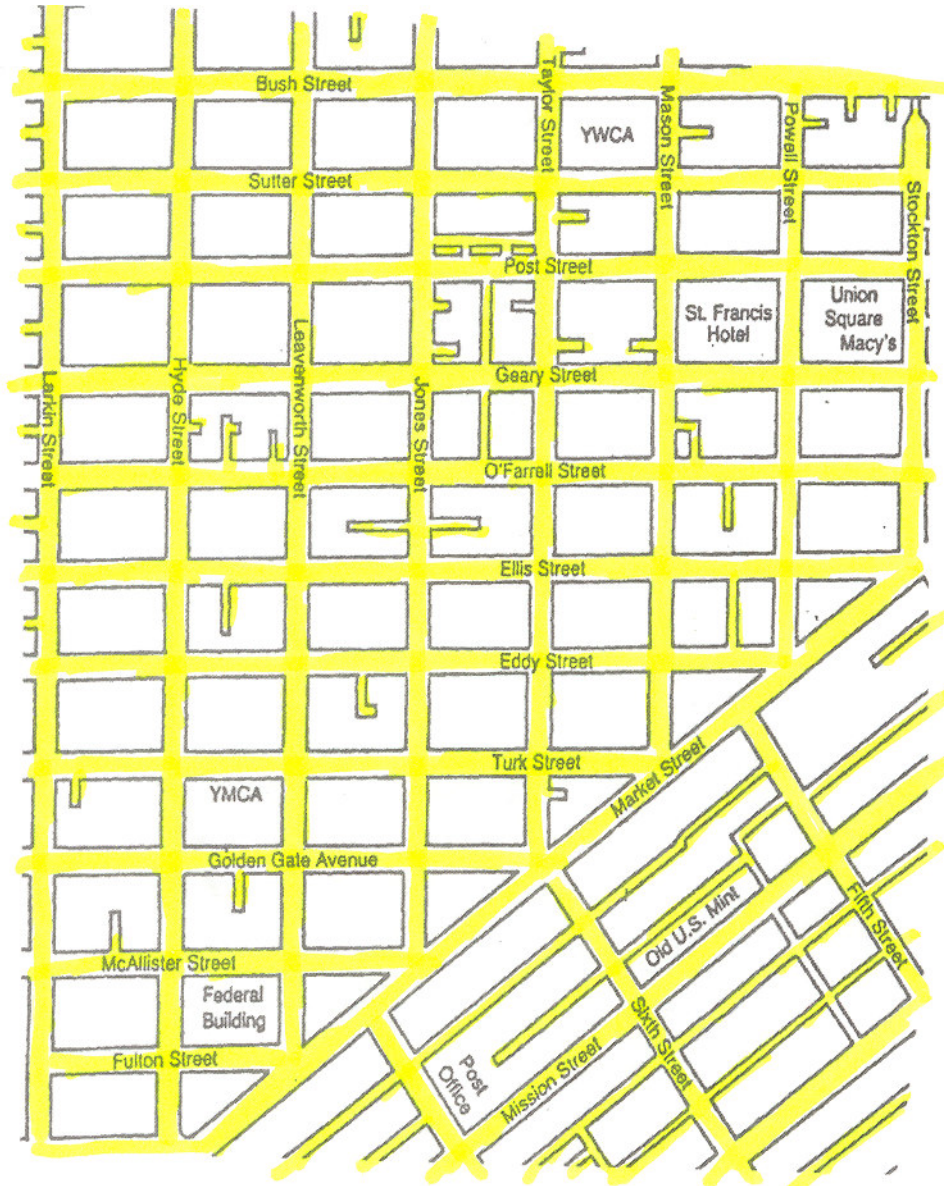
*Nature of Mathematics, Eleventh Edition*

# Guidelines for PROBLEM SOLVING

**FIRST: Understand the Problem**  
**SECOND: Devise a Plan**  
**THIRD: Carry out the Plan**  
**FOURTH: Look Back**

- 1. Look for a simpler related problem**
- 2. Work backward**
- 3. Work forward**
- 4. Narrow the condition**
- 5. Widen the condition**
- 6. Seek a counterexample**
- 7. Guess and test**
- 8. Divide and conquer**
- 9. Change the conceptual mode**

# MAP OF SAN FRANCISCO





# PATTERNS IN MULTIPLICATION

**Nine**

$$1 \times 9 = 9$$

$$2 \times 9 = 18$$

$$3 \times 9 = 27$$

$$4 \times 9 = 36$$

$$5 \times 9 = 45$$

$$6 \times 9 = 54$$

$$7 \times 9 = 63$$

$$8 \times 9 = 72$$

$$9 \times 9 = 81$$

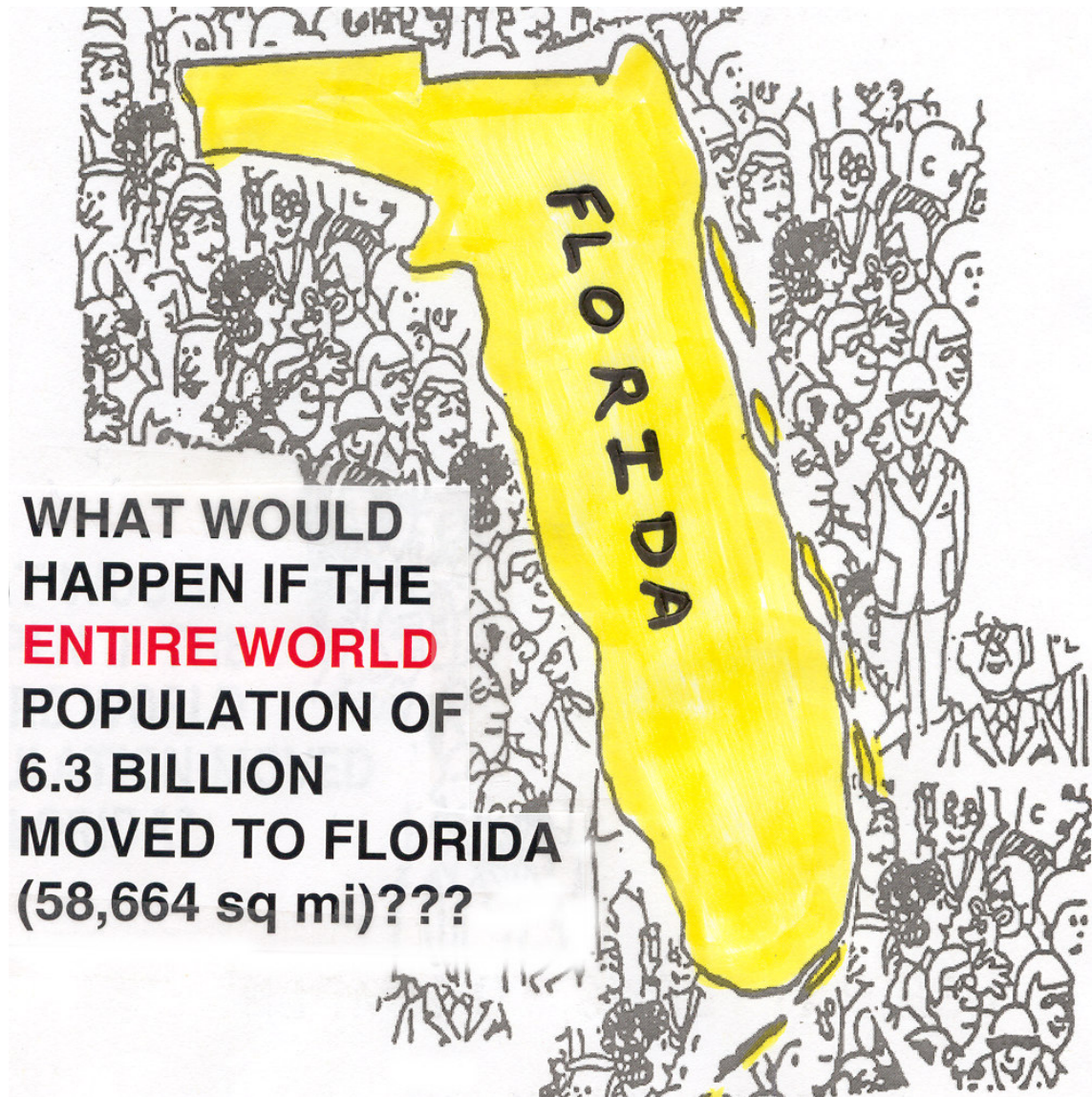
$$10 \times 9 = 90$$

**USE PATTERNS TO SIMPLIFY:**

$$\frac{(999,999,999)(999,999,999)}{1+2+3+4+5+6+7+8+9+8+7+6+5+4+3+2+1}$$

# EXTRA! EXTRA!

ENTIRE WORLD POPULATION MOVES TO FLORIDA



WHAT WOULD  
HAPPEN IF THE  
**ENTIRE WORLD**  
POPULATION OF  
6.3 BILLION  
MOVED TO FLORIDA  
(58,664 sq mi)???

How much space would a family of four persons have?

- A. 10 sq in. (oh no!)
- B. 10 sq ft (standing room only)
- C. 100 sq ft (a small room)
- D. 1,000 sq ft (a typical apartment)
- E. 10,000 sq ft (a grand estate)