TRANSPARENCY MASTERS

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THE NATURE OF MATHEMATICS
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.
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
PASCAL'S TRIANGLE

Designate rows and columns:

\[
\begin{align*}
\binom{0}{0} & \quad \binom{1}{0} \quad \binom{1}{1} \\
\binom{2}{0} & \quad \binom{2}{1} \quad \binom{2}{2} \\
\binom{3}{0} & \quad \binom{3}{1} \quad \binom{3}{2} \quad \binom{3}{3} \\
\binom{4}{0} & \quad \binom{4}{1} \quad \binom{4}{2} \quad \binom{4}{3} \quad \binom{4}{4} \\
\vdots
\end{align*}
\]

- Row Number (on top)
- Column Number (on bottom)
PATTERNS IN MULTIPLICATION

Nine

\[ \begin{align*}
1 \times 9 &= 9 \\
2 \times 9 &= 18 \\
3 \times 9 &= 27 \\
4 \times 9 &= 36 \\
5 \times 9 &= 45 \\
6 \times 9 &= 54 \\
7 \times 9 &= 63 \\
8 \times 9 &= 72 \\
9 \times 9 &= 81 \\
10 \times 9 &= 90
\end{align*} \]

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)