

Math-Based Puzzles

Beginning Links to Logic

Concept: Geoffrey R. Lorenz
Author: Tiffany Rosengarten
Editor: Jonathan Gross
Book Design: Ken Benner

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How to Use This Book

FINDING ERRORS (pages 22 – 24)

PURPOSE:

Students will examine problems that have been solved incorrectly. They will use their math skills to find errors, and to correctly solve each problem.

DIRECTIONS:

Students are given problems that have been incorrectly solved. Their task is to analyze the problems to determine why the answers are incorrect. To do so, they must work the problems correctly and find the proper solutions. They can do this individually or in groups.

EXTENSIONS/VARIATIONS:

This activity can be applied to any concept and skill level. You can always create additional problems like those found in this section. Try having students help create problems concerning a topic the class is currently studying. Be sure to vary the difficulty level of these problems to further challenge your students.

GEOMETRY SUDOKU (pages 25, 26)

PURPOSE:

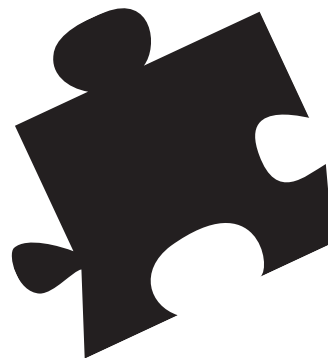
Students will become familiar with common geometrical shapes by completing a Sudoku puzzle featuring those shapes.

DIRECTIONS:

In each box of 4 (or 9), row of 4 (or 9), or column of 4 (or 9), there should only be one of each shape (square, circle, triangle, rectangle...octagon, pentagon, oval, trapezoid, and rhombus.) Students use the shapes given to them and the rules to figure out the remaining shapes in the puzzle.

EXTENSIONS/VARIATIONS:

For students that are more skilled, the puzzle with 9 shapes will be more of a challenge. If that is still simple, some of the given shapes can be removed. The students can try to create their own 4 by 4 Sudoku puzzle using shapes they know. For less skilled students, the puzzle with 4 shapes is probably best. More shapes can be given to the student if he/she is still struggling. The names can be used in place of the shapes to practice spelling shape names. Different shapes can replace the given shapes to fit different lessons and levels.



Name _____

Date _____



Solving Math Problems

Fill in each of the equations with mathematical symbols. Your answer needs to be 9.

1. $1 \square 5 \square 3 \square 0 = \square 9$

2. $5 \square 8 \square 6 \square 2 = \square 9$

3. $9 \square 4 \square 3 \square 1 = \square 9$

4. $8 \square 7 \square 4 \square 2 = \square 9$

5. $2 \square 6 \square 5 \square 4 = \square 9$

6. $7 \square 9 \square 1 \square 6 = \square 9$

7. $3 \square 5 \square 3 \square 2 = \square 9$

8. $6 \square 7 \square 5 \square 1 = \square 9$

9. $4 \square 3 \square 12 \square 4 = \square 9$

Finding Errors

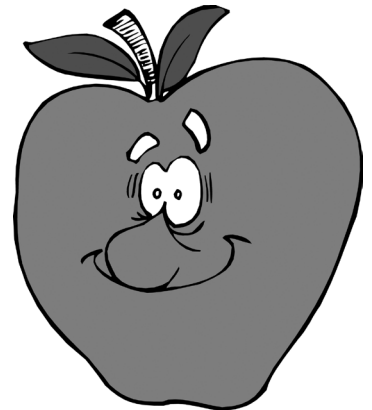
We are going to help some students correct their math problems. First, solve each problem below correctly. Then discuss what mistake each student might have made to get the answer they found.

1. Ellen was supposed to add $11 + 2$. She got the answer 31, but it was incorrect. Can you help Ellen figure out what she did wrong and how to solve the problem correctly? **Correct Answer:** _____
2. John was supposed to add $18 + 3$. He got the answer 111, but it was incorrect. Can you help John figure out what he did wrong and how to solve the problem correctly? **Correct Answer:** _____
3. Michelle was supposed to subtract $25 - 8$. She got the answer 23, but it was incorrect. Can you help Michelle figure out what she did wrong and how to solve the problem correctly? **Correct Answer:** _____

4. Jack was supposed to answer the following word problem:

Suzie had 5 apples. She gave away 2 to Lauren.
How many apples does Suzie have left?

Jack got the answer 7, but it was incorrect. Can you help Jack figure out what he did wrong and how to solve the problem correctly? **Correct Answer:** _____



5. Jill was supposed to answer the following word problem:

Johnny got 2 apples from each of his 5 friends. How many apples does Johnny have?

Jill got the answer 3, but it was incorrect. Can you help Jill figure out what she did wrong and how to solve the problem correctly? **Correct Answer:** _____