

PUZZLE IT!
LOGIC PUZZLES
AND TRICKS

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WELCOME

TO THE FUN OF LOGIC PUZZLES AND TRICKS

Everybody loves a puzzle! A puzzle is like an unsolved mystery, teasing you to be the one that unravels it. There are few things that match the feeling of satisfaction you experience when, after thinking long and hard about a puzzle, the solution suddenly materializes—clear as crystal. It is truly a magical moment, one that will be remembered.

Here's some more magic: When students wrestle with a puzzle, classroom learning is energized. Who can walk away from the invitation to tackle a puzzle? It's too much fun to try to figure it out. Even the most reluctant students seem to wake up and be drawn into the solution process. But puzzles are much more than fun! They give the brain a workout and nurture problem-solving skills.

Every classroom and home should offer many puzzle-solving opportunities. The critical thinking and problem-solving skills that are honed while solving puzzles are basic. They apply to every facet and subject area of learning. In solving puzzles, students make use of such thinking skills as logic, analysis, synthesis, sequencing, creativity, induction, and deduction—and they often must use several of these simultaneously! They must observe, ask questions, consider strategies, try different strategies, visualize different possibilities, and figure out why one thing works and another does not. Many puzzles also refine hand-eye or hand-mind coordination, spatial awareness, and mental gymnastics.

Puzzles must be a part of every serious curriculum. The puzzles in the **Puzzle It!** series challenge students to analyze information and use their critical thinking skills.

This book contains some great puzzles to challenge your brain. You don't have to be an Einstein to figure them out; just use a little logic. And the helpful hint doesn't hurt, either!

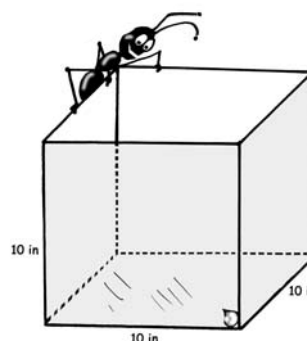


ABOUT THE PUZZLES IN THIS BOOK

These are primarily logic puzzles, although they make use of many other problem-solving skills as well. Some of the puzzles are just words, and require careful reading. Other puzzles require visualization of something—like a queen's necklace, a water container, or a line-up of turtles. Still others present a diagram or other graphic dilemma to solve. The puzzles are challenging. (Some of them are very challenging!) However, the solutions do not require complex or formal knowledge of mathematics. A young student just might be on an equal footing with a math professor when tackling many of them. There is no age limitation. They're ready to solve—for anyone who enjoys a mental challenge.

HOW TO USE THE PUZZLES

- Look over a puzzle carefully. Read the instructions a few times.
- Consider the puzzle thoughtfully. Make sure the purpose of the puzzle is clear to you.
- Evaluate what to figure out.
- Experiment with different strategies and ideas. Try out different solutions.
- Take one puzzle at a time. A puzzle will grab you and won't let go until you figure it out. So let it swirl around in your head—even over a few days. Stay with it until you reach a solution.
- Try not to peek at the answers. Each of these puzzles has a hint. This should help you move toward a solution.
- You can tackle a puzzle alone, or share a puzzle with friends and tackle it together. Share ideas, discuss, argue—until you arrive at a solution.
- When you find a solution, discuss it with someone else. Explain the steps and strategies you used to reach your answer. Compare your solution and methods with someone else's.



ABOUT THE SOLUTIONS . . .

A logical solution is given for each of these logic problems. In some of the cases, however, there may be more than one solution that makes sense. Give credit for any solution that the puzzle-solver can explain logically.

WHAT'S THE SOURCE OF THESE PUZZLES?

Like the origin of many good jokes, folk tales, stories, or superstitions . . . the origins of many puzzles are hard to pinpoint. Puzzles such as those in this book are passed verbally from one person to another over generations. I am in debt to all those individuals who collected and distributed puzzles over the years (people such as Henry Dudeney, Sam Lloyd, Kendall and Thomas, Martin Gardner, Ruma Falk, and Ami Birenboim). They have inspired the inclusion of many puzzles in this book. I hope that you will join the puzzle-solvers and pass along the ones you like.

– Moshe Levy

Puzzle

1

MIX + MATCH

I have six identical matches.
 How can I use them to form
 four triangles without crossing
 or breaking any matches?
 Give it a try.
 Explain your solution.



Hint: page 63
Answer: page 52

Puzzle

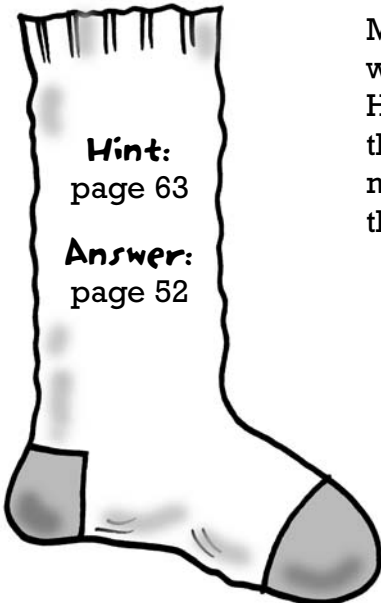
2

SOCK IT TO ME

Max enters his room to get a pair of socks, but he doesn't want to turn on the light because his brother is sleeping. He knows that he has 12 white socks and 18 black socks in the drawer, but they are all mixed up. What is the minimum number of socks that Max needs to grab in order to ensure that he will have at least one pair of same-color socks?

Hint:
 page 63

Answer:
 page 52



Name _____

Puzzle
3

DON'T MISS THE BOAT!

Lucy washed up on a deserted island after her sailboat sank. Fortunately, she had a waterproof package holding a few matches, two pieces of rope, and one flare. Everything else went down with the boat, even her watch.

She knows that the Coast Guard patrols the area exactly one and a half hours after sundown. She also knows that each piece of rope will burn for exactly one hour. The problem is that the ropes are not uniform in thickness, so the speed at which a rope burns is not constant. (Half a rope does not necessarily burn in half an hour.)

How can she measure one and a half hours by burning the ropes so she will know exactly when to set off her flare? (If she sets off the flare at the wrong time, she'll miss her chance to notify the Coast Guard and get rescued.)



Hint: page 63
Answer: page 52



Name _____