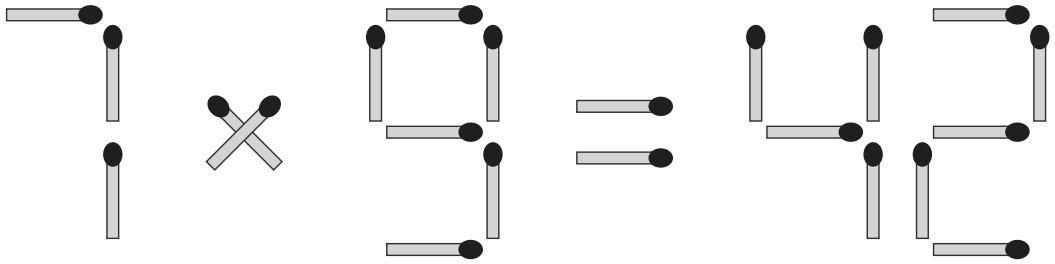
MATCHSTICK PUZZLE BOOK

Matchstick Puzzles for Adults

150 Brain Teasers: Equations, Roman Numerals, Squares, Triangles and Shapes, Easy to Expert, with Hints and Answers



Harper Lane

Matchstick Puzzles for Adults

150 Brain Teasers: Equations, Roman Numerals, Squares, Triangles and Shapes, Easy to Expert, with Hints and Answers

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All 150 puzzles in this book are original. A computer search tried every possible move for every puzzle: each one has exactly one answer under the rules printed at the front of the book.

Please do not use real matches with children. A pencil, toothpicks or paper strips work just as well.

First edition, 2026

Contents

How to Play and the Rules 4

How the Puzzles Are Graded 7

Matchstick Equations 8
Puzzles 1 to 60

Roman Numeral Equations 24
Puzzles 61 to 80

Squares 30
Puzzles 81 to 120

Triangles 51
Puzzles 121 to 140

Turn It Around 62
Puzzles 141 to 150

Hints 68

Solutions 72

Sample pages

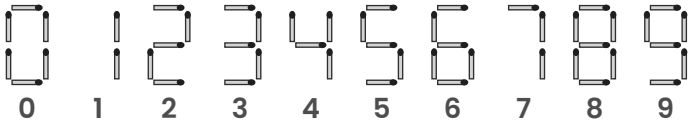
How to Play

Every puzzle is a picture made of matches with one short job printed above it. Solve it in your head, sketch it in pencil, or lay it out with toothpicks or paper strips.

- ✓ Move: pick up a match and put it down in an empty place. It must really move: putting it back where it was does not count.
- ✓ Take away: remove matches from the picture. They do not come back.
- ✓ Add: put new matches into empty places.
- ✓ Use exactly the number of matches the puzzle says. Matches are never bent, broken, stacked or stood on end.

Numbers and signs

Every digit and sign in the equation puzzles is built exactly like this chart. A shape that is not in the chart is not a digit.



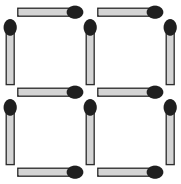


plus minus times equals

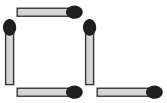
Roman numerals use I (1), V (5) and X (10): VI is 6, IV is 4, IX is 9, XIV is 14. A smaller numeral before a bigger one is taken away from it, and no numeral appears four times in a row.

Counting squares

Squares of every size count. A match belongs to a square only when all four sides of that square are there.



5 squares: 4 small and 1 big



Not allowed: a loose match

Sample pages

The Rules

Matchstick puzzles are famous for arguments about what is allowed. These rules settle them. Every puzzle in this book was checked by a computer that tried every possible move: under these rules each puzzle has exactly one answer.

Equations

- ✓ Digits and signs must look exactly like the chart. × means times and is worked out before + and − (but no printed equation mixes them in a way where that matters).
- ✓ The = sign stays as it is: do not move its matches.
- ✓ A number may lose its first or last digit (17 can become 7), but never one in the middle, and it never starts with 0 unless it is just 0. No negative numbers.
- ✓ Answers are whole equations that are true, like 7 + 2 = 9.

Figures: squares, triangles and shapes

- ✓ Matches lie on the dotted grid, one match on each side between two dots. They never cross, overlap or sit at an angle the grid does not have.
- ✓ Squares (or triangles) of every size count: four small squares in a block also make one big square, so a 2 by 2 block has 5 squares.
- ✓ "Equal squares" means every square in the finished figure is the same size.
- ✓ No loose matches: every match in the finished figure must be a side of a square (or triangle).
- ✓ Turn-around puzzles: the finished shape must be the same shape facing the other way (or upside down), sitting anywhere on the grid.
- ✓ If the starting figure is symmetrical, answers that are mirror images or turns of each other count as the same answer.

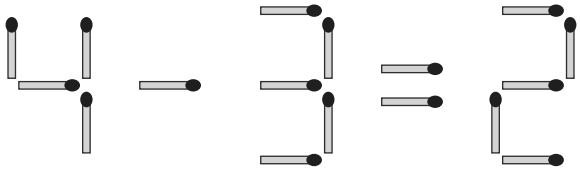
Stuck? Every puzzle has a hint on page 68, and every answer is drawn in the solutions on page 72.

Sample pages

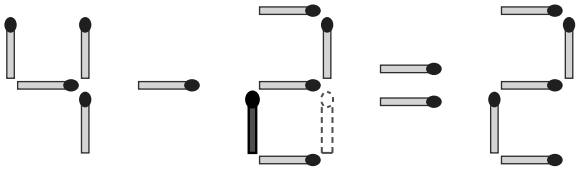
Two Worked Examples

Move 1 match to make the equation true.

Move one match: the 3 becomes 2. Now it reads 4 − 2 = 2, which is true.



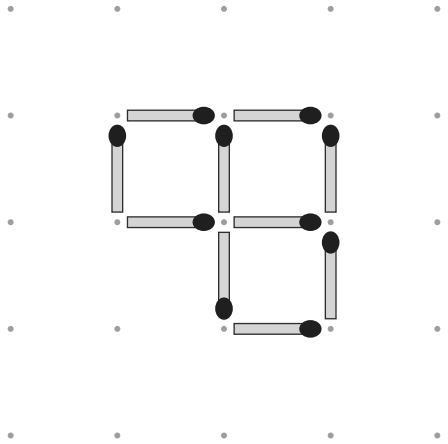
Puzzle



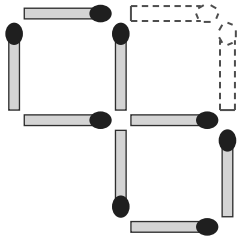
Answer: 4 - 2 = 2

Take away 2 matches to leave 2 equal squares.

Take away the 2 dashed matches. 2 equal squares are left and every match is still part of a square.



Puzzle



Answer: 2 equal squares

Sample pages

How the Puzzles Are Graded

A puzzle gets harder with every extra match you must move, and with every tempting wrong idea. For each puzzle the computer counted the near misses: moves that give a readable equation that is false, or a tidy figure that is not the one asked for. More near misses means more ways to go wrong.

Matchstick Equations (puzzles 1 to 60)

★☆☆☆ **Easy**	15 puzzles · Add 1, move 1, take away 1	near misses 1 to 10 (average 4)
★★☆☆ **Medium**	15 puzzles · Move 1, add 2, take away 2	near misses 3 to 26 (average 9)
★★★☆ **Hard**	15 puzzles · Move 1, move 2	near misses 10 to 85 (average 28)
★★★★ **Expert**	15 puzzles · Move 2	near misses 53 to 351 (average 161)

Roman Numeral Equations (puzzles 61 to 80)

★☆☆☆ **Easy**	5 puzzles · Add 1, take away 1, move 1	near misses 0 to 6 (average 3)
★★☆☆ **Medium**	5 puzzles · Move 1	near misses 5 to 8 (average 7)
★★★☆ **Hard**	5 puzzles · Move 1	near misses 4 to 7 (average 6)
★★★★ **Expert**	5 puzzles · Move 1	near misses 13 to 16 (average 15)

Squares (puzzles 81 to 120)

★☆☆☆ **Easy**	10 puzzles · Add 1, move 1, take away 2, add 2, move 2	near misses 0 to 4 (average 1)
★★☆☆ **Medium**	10 puzzles · Take away 3, move 2, take away 2, move 3	near misses 1 to 12 (average 6)
★★★☆ **Hard**	10 puzzles · Move 3, take away 2, move 2, take away 3	near misses 0 to 28 (average 15)
★★★★ **Expert**	10 puzzles · Move 3	near misses 0 to 65 (average 10)

Triangles (puzzles 121 to 140)

★☆☆☆ **Easy**	5 puzzles · Add 1, take away 1, take away 2, add 2	near misses 0 to 2 (average 1)
★★☆☆ **Medium**	5 puzzles · Add 2, move 2, take away 2	near misses 2 to 12 (average 7)
★★★☆ **Hard**	5 puzzles · Move 2, take away 3, take away 4	near misses 8 to 67 (average 35)
★★★★ **Expert**	5 puzzles · Take away 2, move 2	near misses 9 to 75 (average 32)

Turn It Around (puzzles 141 to 150)

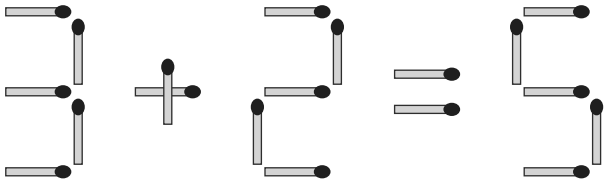
★☆☆ **Easy**	4 puzzles · Move 1, move 2	the fewest moves, one way to do it
★★☆ **Medium**	3 puzzles · Move 2, move 3	the fewest moves, one way to do it
★★★ **Hard**	3 puzzles · Move 3	the fewest moves, one way to do it

Sample pages

MATCHSTICK EQUATIONS

Puzzles 1 to 60

Every equation is false. Move, take away or add exactly the matches the puzzle asks for to make it true.

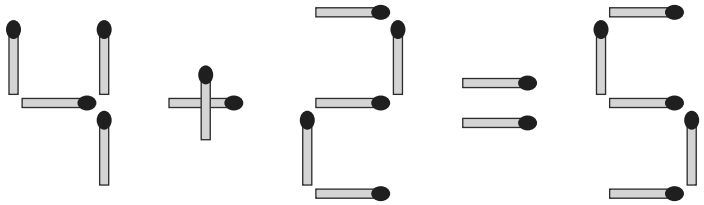


Sample pages

Puzzle 1 ★☆☆☆

EASY

Add 1 match to make the equation true.

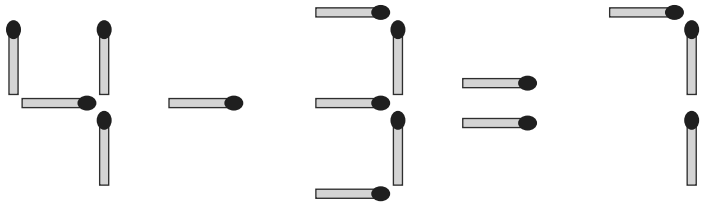


Answer: _____

Puzzle 2 ★☆☆☆

EASY

Add 1 match to make the equation true.

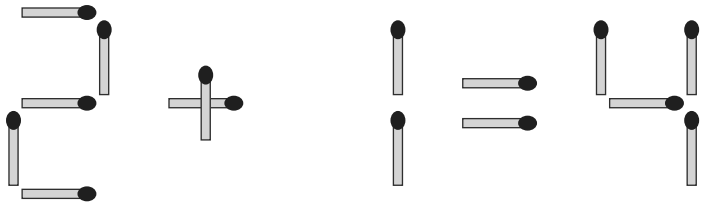


Answer: _____

Puzzle 3 ★☆☆☆

EASY

Move 1 match to make the equation true.

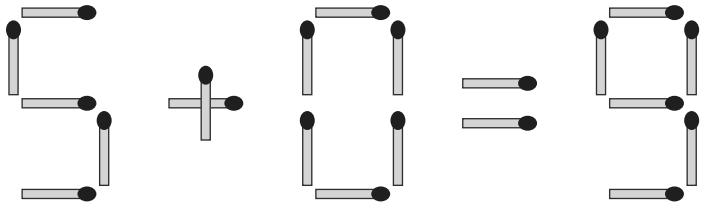


Answer: _____

Puzzle 4 ★☆☆☆

EASY

Add 1 match to make the equation true.



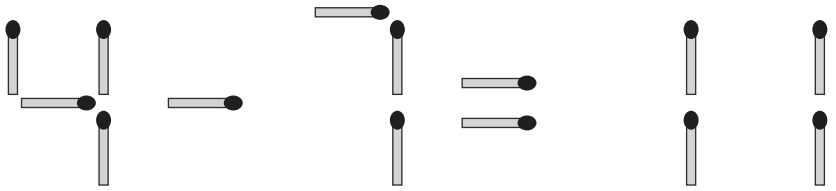
Answer: _____

Sample pages

Puzzle 5 ★☆☆☆

EASY

Add 1 match to make the equation true.

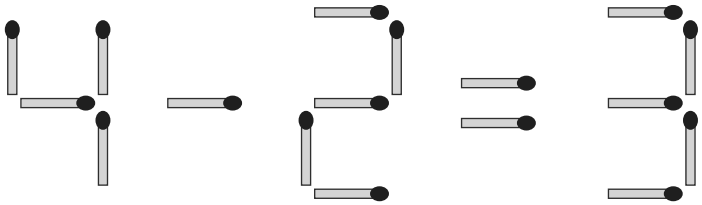


Answer: _____

Puzzle 6 ★☆☆☆

EASY

Move 1 match to make the equation true.

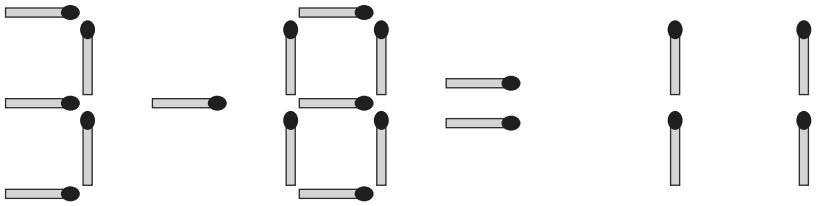


Answer: _____

Puzzle 7 ★☆☆☆

EASY

Add 1 match to make the equation true.

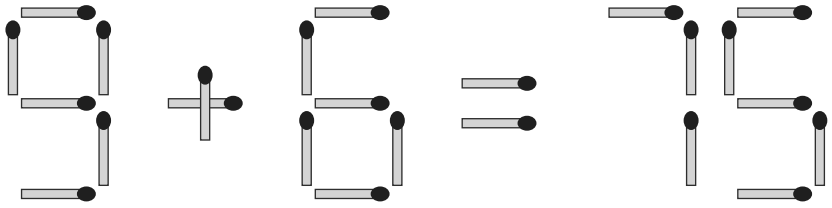


Answer: _____

Puzzle 8 ★☆☆☆

EASY

Take away 1 match to make the equation true.



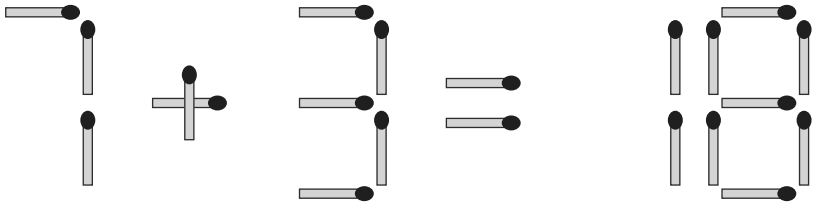
Answer: _____

Sample pages

Puzzle 9 ★☆☆☆

EASY

Take away 1 match to make the equation true.

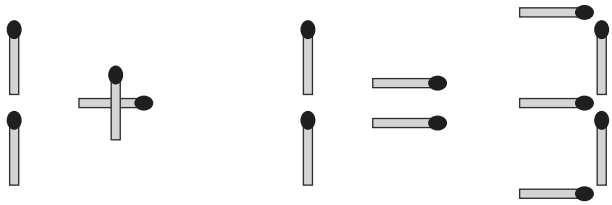


Answer: _____

Puzzle 10 ★☆☆☆

EASY

Move 1 match to make the equation true.

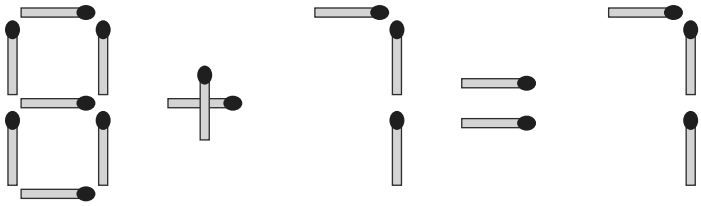


Answer: _____

Puzzle 11 ★☆☆☆

EASY

Take away 1 match to make the equation true.

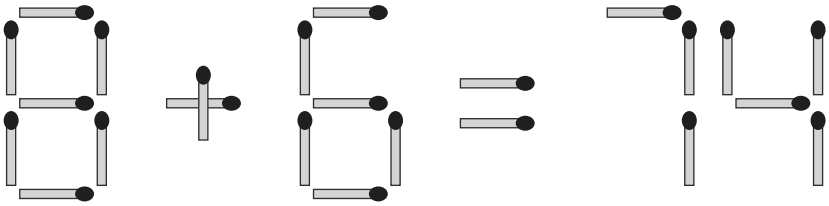


Answer: _____

Puzzle 12 ★☆☆☆

EASY

Take away 1 match to make the equation true.



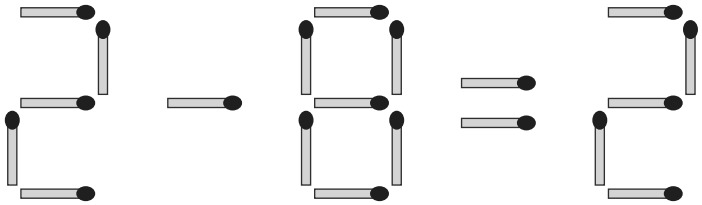
Answer: _____

Sample pages

Puzzle 13 ★☆☆☆

EASY

Move 1 match to make the equation true.

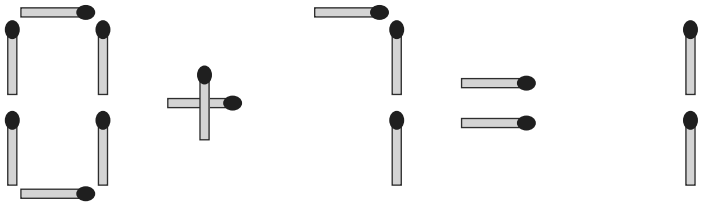


Answer: _____

Puzzle 14 ★☆☆☆

EASY

Move 1 match to make the equation true.

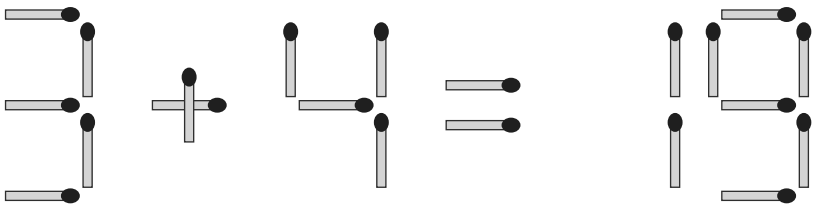


Answer: _____

Puzzle 15 ★☆☆☆

EASY

Move 1 match to make the equation true.

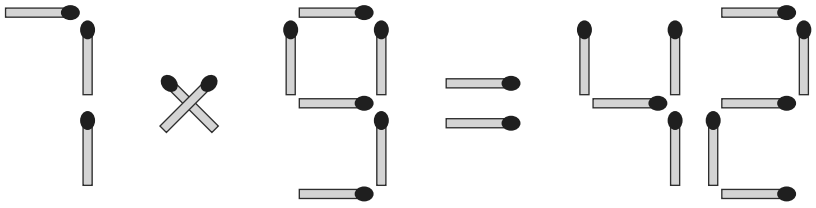


Answer: _____

Puzzle 16 ★★☆☆

MEDIUM

Move 1 match to make the equation true.



Answer: _____

Sample pages