Letter Puzzles

A GUIDE

Every letter is a number wearing a mask. One line in the puzzle always gives its secret away — find it, and the rest falls like dominoes.

Numbers in Disguise

Imagine a number that puts on a costume. Instead of writing 4, someone writes the letter A. The number is still there — it is just hiding behind the letter.

A letter puzzle is a short list of equations where every letter hides one number. Your job is to unmask them, one at a time. The same letter always hides the same number, everywhere it appears.

Look at the puzzle below. The first line uses only A, so it spills A's secret right away. Once you know A, the second line stops being a mystery too.

A + A = 8

A + B = 11

Find the Loud Line

Here is the key move. Scan the whole puzzle and find the line with only ONE letter in it. That line is loud — it can't keep its secret, because there is nothing else it could mean.

A line like B + B = 14 is really asking: what number, doubled, makes 14? You can answer that without knowing anything else. So always start there, even if it is not the first line on the page.

Worked example B + B = 14. What number is B hiding?

1. The line says two copies of B add up to 14.
2. Ask yourself: what number doubled makes 14?
3. 7 + 7 = 14, so the mask comes off: B is 7.

Answer: B = 7

Carry the Clue Forward

Once a letter is unmasked, it stays unmasked. Take the number you found and swap it in wherever that letter shows up next. The moment you do, a two-letter line turns into a one-letter line — and you already know how to crack those.

This is called a cascade: each answer unlocks the next line, like a row of falling dominoes. Solve, swap, solve, swap. Watch it happen in the puzzle below — S opens the door, then S unlocks U, then U unlocks N.

S + S = 10

S − U = 2

U + N = 12

Worked example A + A = 6, and A + C = 10. What is C?

1. Start with the loud line: A + A = 6, and 3 + 3 = 6, so A = 3.
2. Swap A for 3 in the next line: it becomes 3 + C = 10.
3. Now it is plain arithmetic: C = 10 − 3 = 7.

Answer: C = 7

Longer Chains, Same Moves

Bigger puzzles look scarier, but they aren't. Four letters, five letters — it is still the same two moves on repeat: find the line you can solve, then carry the answer forward.

Subtraction lines join the party too. M − O = 4 just means: M take away O leaves 4. If you already know M, then O is only one small step away.

When you finish, do a victory lap. Put all your numbers back into every line and check that each one is true. If one line breaks, you'll know exactly where to look.

M + M = 12
M−O = 4
O + P = 10
P−T = 7

Worked example D + D = 16, D − E = 5, E + F = 9. What is F?

1. Loud line first: D + D = 16, so D = 8.
2. Swap D into the next line: 8 − E = 5, so E = 3.
3. Swap E into the last line: 3 + F = 9, so F = 6.
4. Check: 8 + 8 = 16, 8 − 3 = 5, 3 + 6 = 9. All true!

Answer: F = 6

Remember

★ Always hunt for the line with just one letter — that is your way in, even if it isn't the first line.

★ Once a letter is unmasked, it keeps that number everywhere in the puzzle — letters never change costumes mid-game.

★ Swap a solved letter for its number right away, and the next line turns into ordinary arithmetic.

★ Finished? Put every number back into every line and make sure each one is true — that is how puzzle-solvers catch their own slips.

Now you try

1) A + A = 10. What number is A?
   Answer: _____

2) B + B = 18. What number is B?
   Answer: _____

3) C + C = 8, and C + D = 11. What is D?
   Answer: _____

4) E + E = 12, and E − F = 2. What is F?
   Answer: _____

5) G + G = 20, G − H = 6, and H + J = 15. What is J?
   Answer: _____

6) K + K = 14, K + L = 20, and L − M = 5. What is M?
   Answer: _____

7) T + T = 22, T − U = 7, and U + V = 4. What is V?
   Answer: _____

8) W + W = 16, W − X = 3, and X + Y = 14. What is W + X + Y?
   Answer: _____

Answers — check yourself

1. A = 5
2. B = 9
3. D = 7
4. F = 4
5. J = 11
6. M = 8
7. V = 0
8. 22