Shape-Variable Equation Puzzles: Solve by Substitution

Worked example / complete source key

A triangle plus a circle equals 9. Two triangles plus a circle equals 13. Find the value of each shape.

Answer: Triangle equals 4 and circle equals 5.

Reason: Let t be the triangle and c the circle. The equations are t + c = 9 and 2t + c = 13. Subtract the first equation from the second: (2t + c) - (t + c) = 13 - 9, so t = 4. Substitute t = 4 into t + c = 9: 4 + c = 9, so c = 5. Check: 4 + 5 = 9 and 2(4) + 5 = 13. Both are true.