CCM Conceptual/Theoretical Challange
Crypto: Heuristic Problem Solving

Crypto Examples

H1. – if sameP(A,B) ^ zeroP(C,D,E) ^ oneP(G) then ((A/B) + zeroX(C,D,E))

Numbers = {5,5,10,2,5} Goal= 1 ...Solution = ((5/5) + ((10/2)-5))
Numbers = {1,5,3,2,1} Goal= 1 ...Solution = ((1/1) + ((5-3)-2))
Numbers = {8,4,0,7,7} Goal= 1 ...Solution = ((7/7) + (0 * (8+4)))

H2. – if sameP(A,B) and goalP(C,D,E) then ((A-B) + goalX(C,D,E))

Numbers = {0,5,0,1,10} Goal= 2 ...Solution = ((0-0) + ((10/5)*1))
Numbers = {1,3,3,2,5} Goal= 7 ...Solution = ((3-3) + ((5*1)+2))
Numbers = {8,4,2,7,7} Goal= 4 ...Solution = ((7-7) + (2* (8/4)))

H3. – if zeroP(A) and goalP(B) and numbers P(C,D,E) then (B + (A * (C * (D * E))))

Numbers = {0,3,10,2,5} Goal= 5 ...Solution = (5 + (0 * (3 * (10 * 2))))
Numbers = {1,6,0,2,5} Goal= 6 ...Solution = (6 + (1 * (5 * (0 * 2))))
Numbers = {9,7,10,1,0} Goal= 10 ...Solution = (10 + (9 * (1 * (7 * 0))))

H4. – if sameP(A,B) and goalP(C) and numbersP(D,E) then (C+ ((A –B) * (D *E)))

Numbers = {5,5,9,2,6} Goal= 9 ...Solution = (9 + ((5 –5) * (6 *2)))
Numbers = {6,7,6,2,5} Goal= 7 ...Solution = (7+ ((6 –6) * (2 *5)))
Numbers = {1,2,1,3,5} Goal= 3 ...Solution = (3+ ((1 –1) * (2 *5)))

H5. – if oneP(A) and zeroP(B,C,D) and onemoreP(E,G) then ((E-A) + zeroX(C,D,B))

Numbers = {8,1,10,2,0} Goal= 7 ...Solution = ((8-1) + ((10/2) * 0))
Numbers = {9,9,1,2,5} Goal= 4 ...Solution = ((5-1) + ((9-9) * 2))
Numbers = {4,1,10,2,0} Goal= 3 ...Solution = ((4-1) + (0 * (10/2)))

H6. – if oneP(A) and oneP(B) and zeroP(C,D) and twomoreP(E,G) then ((E –(A + B))+ zeroX(C,D))

Numbers = {5,1,1,2,2} Goal= 3 ...Solution = ((5 –(1 + 1))+ (2-2))
Numbers = {10,1,1,2,0} Goal= 8 ...Solution = ((10 –(1 + 1))+ (2*0))
Numbers = {4,1,1,7,7} Goal= 2 ...Solution = ((4 –(1 + 1))+ (7-7))

H7. – if sameP(A,B) and sameP(C,D) and twomoreP(E, G) then (E –((A/B) + (C/D)))

Numbers = {5,5,2,2,6} Goal= 4 ...Solution = (6 –((5/5) + (2/2)))
Numbers = {1,7,1,3,3} Goal= 5 ...Solution = (7 –((1/1) + (3/3)))
Numbers = {6,4,6,9,4} Goal= 7 ...Solution = (9 –((6/6) + (4/4)))

H8. – if twoP(A,B) and zeroP(C,D) and twomoreP(E,G) then ((E– twoX(A,B)) + zeroX(C,D))

Numbers = {6,3,2,2,5} Goal= 3 ...Solution = ((5– (6/3)) + (2-2))
Numbers = {7,0,4,2,8} Goal= 3 ...Solution = ((8– (4-2)) + (7*0))
Numbers = {5,4,6,2,2} Goal= 5 ...Solution = ((6– (5-4)) + (2-2))

H9. – if sameP(A,B,C,D,E,G) then (A + ((B – C) + (D -E)))

Numbers = {5,5,5,5,5} Goal= 5 ...Solution = (5 + ((5 − 5) + (5 -5)))
Numbers = {6,6,6,6,6} Goal= 6 ...Solution = (6 + ((6− 6) + (6 -6)))
Numbers = {7,7,7,7,7} Goal= 7 ...Solution = (7 + ((7 − 7) + (7 -7)))