Determine all values a, b, c, d such that

The solution can be computed using an exhaustive search algorithm. This approach utilizes the assumption that a, b, c and d are small positive integers. All values for a, b, c, d such that a, b, c, d can be iteratively examined and pruned so that they satisfy the given bounds.

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solutions = 0 (The initial number of solutions)

product = 17280

sum a = 40

sum b = 32

for w in sum a (Iterates through values 0 <= w < 40)

for x in sum a (Iterates through values 0 <= x < 40)

for y in sum a (Iterates through values 0 <= y < 40)

for z in sum b (Iterates through values 0 <= z < 32)

a = w + 1

b = x + 1

c = y + 1

d = z + 1

if a < b < c < d (Makes sure that the values are in descending order)

if a + b + c = sum b and b + c + d = sum a (Checks for correct sums)

if a b c d = 17280 (Checks for the correct product)

solutions = solutions + 1 (Increments the solutions variable)

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There is one solution that satisfies the given specifications.