Answer on Question #51348 – Math – Combinatorics | Number Theory

Seven Matrons assembled for a meeting, shake hands with one another. How many handshakes take place..................?

Solution

Step 1. When two Matrons assembled for a meeting, we have only one handshake.

Step 2. For three Matrons we have that the first Matron has two handshakes (with the second and the third Matron) and after this we come to Step 1(with two Matrons – the second and the third). That's why when three Matrons assembled for a meeting, $2+1=3$ handshakes take place.

Step 3. When seven Matrons assembled for a meeting, we have that the first Matron has 6 handshakes. After this the second Matron has 5 handshakes and so on. That's why for seven Matrons we have:

$6+5+4+3+2+1 = 21$ handshakes.

Answer: 21 handshakes.