2006-2007: How many watermelons did Joann eat?

On the first day, Joann ate x watermelons; on the second day, she ate $x + 6$ watermelons; on the third day, she ate $x + 12$ watermelons; and so on. Therefore, she ate a total of $x + (x + 6) + (x + 12) + (x + 18) + (x + 24)$, which simplifies to $5x + 60$ watermelons. We are told this is equal to 100 watermelons, so $5x + 60 = 100$. Subtracting 60 and then dividing by 5 tells us $x = 8$, and on the third day she ate $x + 12 = 8 + 12 = 20$ watermelons. Notice that the number of watermelons eaten each day forms an arithmetic sequence, and the third day is the middle term of the sequence. Therefore, the average $100 \div 5 = 20$ is the average amount eaten each day and is the exact amount eaten on the third day.