66) $\sum_{j=2}^{n} j(j-1) = \frac{(n-1)n(n+1)}{3}$

$$2(2-1) = \frac{(2-1)2(3)}{3}$$
$$2 = \frac{6}{3}$$
$$2 = 2$$

$$\frac{(n-1)n(n+1)}{3} + (n+1)(n) \qquad \frac{n(n+1)(n+2)}{3}$$

$$\frac{(n-1)(n+1)n}{3} + (n+1)(n) = \frac{(n^2+n)(n^2+2n)}{3}$$

$$\frac{(n^2-n)(n^2+n)}{3} + (n^2+n) = \frac{(n^2+n)(n^2+2n)}{3}$$

$$(n^2-n)(n^2+n) + 3(n^2+n) = (n^2+n)(n^2+2n)$$

$$(n^2-n) + 3 = n^2+2n$$
$$n(n-1)+3 = n(n+2)$$
$$n+2 = n+2$$

$$2 = 2$$