

Simplify the expression

$$\frac{k(k-1)(k+1)}{3} + k(k+1)$$

Work

$$k(k+1) \left(\frac{k-1}{3} + 1 \right)$$

$$k(k+1) \left(\frac{k-1}{3} + \frac{3}{3} \right)$$

$$k(k+1) \left(\frac{k+2}{3} \right)$$

$$\boxed{\frac{k(k+1)(k+2)}{3}}$$