Zadatak 5. Izračunaj:

1) $\sum_{k=1}^{5} k(k+1)$; **2)** $\sum_{k=1}^{7} (-1)\cdot(k+1)$;

3) $\sum_{k=1}^{6} \frac{1}{k!}$.

Rješenje. **1)** $\sum_{k=1}^{5} k(k+1) = 1(1+1)+2(2+1)+3(3+1)+4(4+1)+5(5+1)$
$= 2+6+12+20+30 = 70$;

2) $\sum_{k=1}^{7}(-1)\cdot(k+1) = (-1)\cdot\sum_{k=1}^{7}(k+1) = (-1)\cdot(2+3+4+5+6+7+8) = -35$;

3) $\sum_{k=1}^{6} \frac{1}{k!} = \frac{1}{1!}+\frac{1}{2!}+\frac{1}{3!}+\frac{1}{4!}+\frac{1}{5!}+\frac{1}{6!} = \frac{720+360+120+30+6+1}{720}$
$= \frac{1\,237}{720}$.