

2.66  
2.1

$$n=1 \quad \frac{1}{3} \cdot 2 \cdot 3 = 1 \cdot 2$$

$$n=k+1 \quad \frac{1}{3^{k+1}} (k+2)(k+3) \dots (3k)(3k+1)(3k+2)(3k+3) \stackrel{?}{=} (1 \cdot 2) \dots (3k-2)(3k-1)(3k+1)(3k+2)$$

$$\frac{1}{3} \frac{(1 \cdot 2)(3 \cdot 4) \dots (3k-2)(3k-1)}{k+1} \cdot (3k+1)(3k+2) \cdot 3(k+1) \stackrel{?}{=} \frac{(1 \cdot 2) \dots (3k-2)(3k-1)}{(3k+1)(3k+2)}$$

$$1=1$$