

## Quiz 6

1. (a)  $10^4 = 10000$

(b)  $10^3 = 1000$

(c)  $10 \cdot 9 \cdot 8 \cdot 7 = \frac{10!}{6!} = 5040$

(d)  $10 \cdot 9 \cdot 9 \cdot 9 = 7290$

2. (a)  $n=1$

$$\frac{1}{2}$$

$n=2$

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

$n=3$

$$\frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} = \frac{1}{4}$$

(b)  $\prod_{k=1}^n \left( \frac{k}{k+1} \right) = \frac{1}{n+1}$