

1 |  $T^m$ 

def

Suppose  $T \in \mathcal{L}(V)$  and  $m$  is a positive integer.

$$T^m = \underbrace{T \cdots T}_{m \text{ times}}$$

$$T^0 = I$$

$$T^{-m} \text{ for an invertible map } T = (T^{-1})^m$$

## 2 | results

## 2.1 | exponent rules work

$$2.1.1 \mid T^m T^n = T^{m+n}$$

$$2.1.2 \mid (T^m)^n = T^{mn}$$