1 | product of polynomials def

If $p, q \in \mathcal{P}(F)$, then $pq \in \mathcal{P}(\mathbb{F})$ is the polynomial defined by

$$(pq)(z) = p(z)q(z)$$

for $z \in \mathbb{F}$.

1.1 | Axler5.20 Multiplicative Properties of Polynomials

1.1.1 | $(pq)(T) = p(T)q(T)$

1.1.2 | $p(T)q(T) = q(T)p(T)$