Polynomial Remainder Theorem

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- $f(x)$: *a polynomial*

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- $f(x)$: *a polynomial*, $x - \alpha$

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- $f(x)$: *a polynomial*, $x-\alpha$
  $\Rightarrow \exists Q(x)$: *a polynomial s.t.* $f(x)=(x-\alpha)Q(x)+f(\alpha)$

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  $f(\alpha) = (\alpha - \alpha)Q(\alpha) + R$
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- $f(x)$: *a polynomial*, $ax+b \ (a\neq 0)$

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