15. Feb 11, 4c

Algoks

$$\frac{\partial f(u)}{\partial u} = \frac{\partial}{\partial u} \sum_{i=0}^{n} b_i \, B_i^n(u)$$

$$= \sum_{i=0}^{n} b_i \cdot n \left( B_{i-1}^{n-1}(u) - B_i^{n-1}(u) \right)$$

$$= n \cdot \left( \sum_{i=0}^{n} b_i \, B_{i-1}^{n-1}(u) - \sum_{i=0}^{n} b_i \, B_i^{n-1}(u) \right)$$

$$= n \left( \sum_{i=1}^{n} b_i \, B_{i-1}^{n-1}(u) - \sum_{i=0}^{n-1} b_i \, B_i^{n-1}(u) \right)$$

$$= n \left( \sum_{i=0}^{n-1} b_{i+1} \, B_i^{n-1}(u) - \sum_{i=0}^{n-1} b_i \, B_i^{n-1}(u) \right)$$

$$= \sum_{i=0}^{n-1} \underbrace{\left( n(b_{i+1} - b_i) \right)}_{=: c_i} B_i^{n-1}(u)$$