a) Find the dual of this expression: $F = AB\bar{C} + D\bar{E}$

$$(A + B + \bar{C})(D + \bar{E}) = F$$

b) $\bar{F} = (A + \bar{B} + \bar{C})(D + \bar{E})$ Use DeMorgan's Theorem to find F. Your final answer must be in sum-of-products (SOP) form.

$$F = \overline{(A + \bar{B} + \bar{C})(D + \bar{E})} = \overline{(A + \bar{B} + \bar{C})} + \overline{(D + \bar{E})}$$

$$F = \bar{A}BC + \bar{D}E$$

c) $F = A\bar{B} + \bar{C}D\bar{E}$ Use DeMorgan's Theorem to find $\bar{F}$. Your final answer must be in product-of-sums (POS) form.

$$\bar{F} = \overline{A\bar{B} + \bar{C}D\bar{E}} = \overline{(A\bar{B})}\,\overline{(\bar{C}D\bar{E})}$$

$$\bar{F} = (\bar{A} + B)(C + \bar{D} + E)$$