

## Assignment 3 – Week 5.

### Simplifying a Boolean Expression.

Simplify the following expression:

$$\overline{(A+B)} \cdot \overline{(C+D+E)} + \overline{(A+B)}$$

- a. Apply De Morgan's Theorem [  $\overline{(A+B)} = \overline{A} \cdot \overline{B}$  ]  
 $(\overline{A} \cdot \overline{B}) \cdot (\overline{C} \cdot \overline{D} \cdot \overline{E}) + (\overline{A} \cdot \overline{B})$
- b. Apply Absorption Law [  $A + (A \cdot B) = A$  ]  
 $\overline{A} \cdot \overline{B}$