

Example 6: Given $U = \{a, b, c, d, e\}$, $A = \{b, c\}$ and $B = \{b, c, e\}$, find each of the following sets:

a. $(A \cup B)'$

b. $A' \cap B'$

Cardinal Number of the Union of Two Finite Sets

$$n(A \cup B) = n(A) + n(B) - n(A \cap B)$$

Example 8: According to factmester.com, among the U.S. presidents in the White House, 26 had dogs, 11 had cats, and 9 had both dogs and cats. How many U.S. presidents had dogs or cats in the White House?