# CMPE 16 Homework # 2

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1. *Give the set represented by each of the expressions below where* $A_1 = \{\square, 2, 8, a, g\}$, $A_2 = \{\triangle, -2, 8, a\}$, $A_3 = \{\square, 12, 7, a, g\}$, *and* $A_4 = \{\square, \triangle, 2, 7, a, b, g\}$. *List each element in the set only once (i.e.* $\{1, 2\}$ *instead of* $\{1, 2, 2\}$*).*

   (a) $A_1 \cup A_2$
   **Answer :** $A_1 \cup A_2 = \{\square, 2, 8, a, g, -2, \triangle\}$

   (b) $A_3 \cap A_4$
   **Answer :** $A_3 \cap A_4 = \{\square, a, 7, g\}$

   (c) $A_4 - A_1$
   **Answer :** $A_4 - A_1 = \{\triangle, 7, b\}$

   (d) $A_1 - A_4$
   **Answer :** $A_1 - A_4 = \{8\}$

   (e) $\bigcup_{i=1}^{4} A_i$
   **Answer :** $\bigcup_{i=1}^{4} A_i = \{\square, 2, 8, a, g, \triangle, -2, 12, b\}$

   (f) $\bigcap_{i=1}^{4} A_i$
   **Answer :** $\bigcap_{i=1}^{4} A_i = \{a\}$