**Problems & Solutions**

The distinct letters from the word MEMORIAL are used to create set Z, such that Z = {M, E, O, R, I, A, L}. The letters from the word DAY are used to create set Y, such that Y = {D, A, Y}. If set X is the intersection of sets Z and Y, what are the letters in set X?

\[ \text{The intersection of two sets includes all the elements (or members) that are in both sets. So set } X = \{A\}. \]

If set V is the union of sets Z and Y from the previous problem, what letters are in set V?

\[ \text{The union of two sets contains all the elements in both sets combined, thus set } V = \{M, E, O, R, I, A, L, D, Y\}. \]

If set S is the intersection of sets X and V from the previous problems and set T is the union of sets X and V, what letters are in sets S and T?

\[ \text{Based on the definitions of intersection and union previously given, we see that } S = \{A\} \text{ and } T = \{M, E, O, R, I, A, L, D, Y\}. \]
Problems

The distinct letters from the word MEMORIAL are used to create set Z, such that $Z = \{M, E, O, R, I, A, L\}$. The letters from the word DAY are used to create set Y, such that $Y = \{D, A, Y\}$. If set $X$ is the intersection of sets $Z$ and $Y$, what are the letters in set $X$?

If set $V$ is the union of sets $Z$ and $Y$ from the previous problem, what letters are in set $V$?

If set $S$ is the intersection of sets $X$ and $V$ from the previous problems and set $T$ is the union of sets $X$ and $V$, what letters are in sets $S$ and $T$?