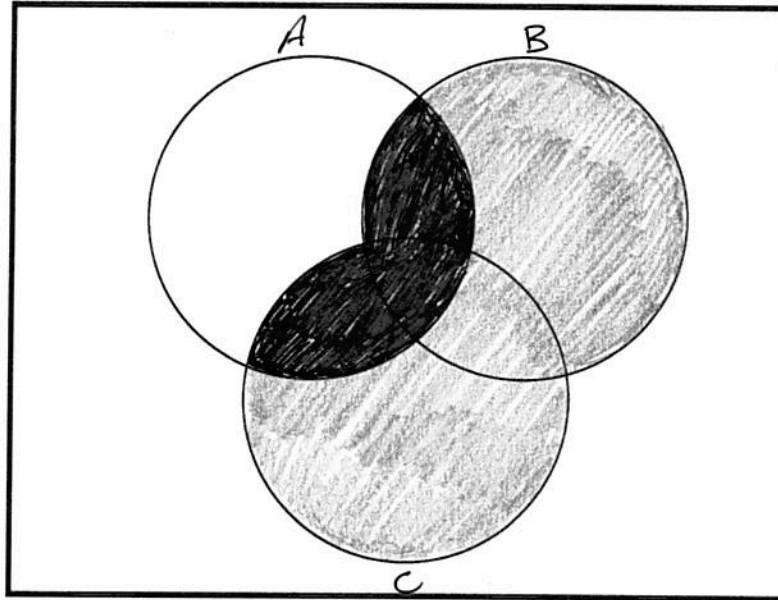


Instructions: Complete each problem below. Show work if needed. Partial credit is available only if you show your work. Answer all parts of each question. You may use a calculator on this quiz.

1. In the Venn diagram below, clearly indicate the region that satisfies the expression $A \cap (B \cup C)$. Label each set clearly as well as the result.



2. Write out the number 376 in base-8 in its place-value meaning (expanded form) and then use that information to convert the number to base-10.

$$\begin{aligned}
 & 3 \times (8^2) + 7 \times (8^1) + 6 \times (8^0) \\
 & = 3 \times 64 + 7 \times 8 + 6 \\
 & = 254
 \end{aligned}$$

3. Add $A38 + 2BF$ in base-16. (Leave your answer in base-16.) [Recall that 10-15 are represented by A-F.]

$$\begin{array}{r}
 A38 \\
 2BF \\
 \hline
 CF7
 \end{array}$$

$\begin{array}{r} 15 \\ 8 \\ \hline 23 \\ 11 \\ \hline 3 \\ \hline 15 \end{array}$	$A = 10$ $B = 11$ $C = 12$ $D = 13$ $E = 14$ $F = 15$
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$A + 2 = 10 + 2 = 12 = C$