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<p>1. Boolean Algebra Which ordered pairs make the following Boolean expression TRUE? $\overline{A(\overline{AB} + B)}$</p>	1.
<p>2. Boolean Algebra Simplify the following Boolean expression: $\overline{AB}(A + \overline{B}) + AB$</p>	2.
<p>3. Data Structures In the binary search tree for the string below, which nodes have only 1 child? NIBBLESWOODAWAY</p>	3.
<p>4. Data Structures Given an initially empty queue and the following sequence of operations, what would be the next POPPED element? PUSH(O), PUSH(C), PUSH(E), POP(X), PUSH(A), PUSH(N), POP(X), POP(X), PUSH(S), PUSH(T), POP(X), PUSH(A), PUSH(T), PUSH(E), POP(X), POP(X)</p>	4.
<p>5. What Does This Program Do? - Arrays Beginning with an initially empty array A, what is the positive difference between the maximum and minimum non-zero values in the array after the program is run? for n = 1 to 4 for p = 1 to 4 a(n,p) = n + p + n*p next p next n for n = 1 to 4 for p = 1 to 4 if (a(n,p) / 2 = int(a(n,p) / 2) (a(n,p) / 3 = int(a(n,p) / 3) (a(n,p) / 5 = int(a(n,p) / 5)) then a(n,p) = 0 next p next n end</p>	5.

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<p>6. Boolean Algebra Simplify the following Boolean expression:</p> $A(A + \bar{B}) + \bar{A}\bar{B}(\bar{A} + B)$	6.
<p>7. Boolean Algebra Which ordered triple(s) make the following Boolean expression FALSE?</p> $A(\bar{B} + C) + \bar{B}(\bar{A} + \bar{C}) + C(A\bar{B})$	7.
<p>8. Data Structures List the nodes at depth 6 of the binary search tree of the following string?</p> <p style="text-align: center;">BARRINGTONHIGHSCHOOL</p>	8.
<p>9. Data Structures Given an initially empty stack, what is the next item to be popped after the following operations have been performed? PUSH(F), PUSH(O), PUSH(R), POP(X), PUSH(T), PUSH(I), POP(X), PUSH(E), PUSH(T), POP(X), PUSH(H), PUSH(A), PUSH(N), POP(X), PUSH(N), POP(X), POP(X), PUSH(I), PUSH(V), PUSH(E), PUSH(R), POP(X), POP(X), PUSH(S), POP(X), POP(X), PUSH(A), PUSH(R), PUSH(Y), POP(X), POP(X), POP(X), POP(X), POP(X)</p>	9.
<p>10. Regular Expressions Given the following regular expression: $1^*01(01)^*1100^*$ which of the following strings match the pattern?</p> <p>A. 0010100 B. 101011100 C. 01010101100 D. 1010110 E. 01110</p>	10.