1 Which of the following are true?

(a) $\overline{A} \cap \overline{B} = \overline{A \cup B}$ True. Both expressions produce the items in the domain not found in either A or B.

(b) $\overline{A} \cup \overline{B} = \overline{A \cup B}$ False. The expression on the left represents elements in the domain not found in both A and B.

(c) $\overline{A} \cup \overline{B} = \overline{A \cap B}$ True. Both expressions represent the items which are in neither A nor B.

(d) $\overline{A} \cap \overline{B} = \overline{A \cap B}$ False. The expression on the left produces items in the domain not found in either A or B. The expression on the right finds the items not in both A and B.

2

```
((arr) => {
    const result = [];
    for (let i = 0; i < Math.pow(2, arr.length); i++) {
        result.push(arr.filter((curr, index) => i & (1 << index)).join(","));
    }
    console.log(`${result.map((curr) => `\\{${JSON.stringify(curr)}\\}`).join(",\n")}`);
})([1, 2, 3, 4, 5]);
```

{""}, {"1"}, {"2"}, {"1,2"}, {"3"}, {"1,3"}, {"2,3"}, {"1,2,3"}, {"4"}, {"1,4"}, {"2,4"}, {"1,2,4"}, {"3,4"}, {"1,3,4"}, {"2,3,4"}, {"1,2,3,4"}, {"5"}, {"1,5"}, {"2,5"}, {"1,2,5"}, {"3,5"}, {"1,3,5"}, {"2,3,5"}, {"1,2,3,5"}, {"4,5"}, {"1,4,5"}, {"2,4,5"}, {"1,2,4,5"}, {"3,4,5"}, {"1,3,4,5"}, {"2,3,4,5"}, {"1,2,3,4,5"}