**ASSIGNMENT QUESTION**

Show that A\*(B+C) = (A\*B) + (B\*C)

**ANSWERS.**

1. **A\*(B+C)**  **E1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | C | (B+C) | A\*(B+C) |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 0 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |

1. **A\*B + A\*C** **E2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| A | B | C | A\*B | A\*C | A\*B + A\*C |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 | 0 |
| 0 | 1 | 1 | 0 | 1 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 |

* From the above truth tables, *A\*(B+C) = A\*B + A\*C* are equal due to the fact that column E1 and E2 are equal.