# Complete the Truth tables, Boolean expression and circuit for the following circuits and write down the Boolean expression

|  |  |  |  |
| --- | --- | --- | --- |
|  | Circuit | Truth Table | Boolean Expression |
| 1 | E | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** | **B** | **E** | **C** | **D** | | 0 | 0 |  |  |  | | 0 | 1 |  |  |  | | 1 | 0 |  |  |  | | 1 | 1 |  |  |  | |  |
| 2 |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** | **B** | **C** | **D** | **E** | | 0 | 0 |  |  |  | | 0 | 1 |  |  |  | | 1 | 0 |  |  |  | | 1 | 1 |  |  |  | |  |
| 3 |  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **A** | **B** | **C** | **D** | **E** | **F** | | 0 | 0 | 0 |  |  |  | | 0 | 1 | 0 |  |  |  | | 1 | 0 | 0 |  |  |  | | 1 | 1 | 0 |  |  |  | | 0 | 0 | 1 |  |  |  | | 0 | 1 | 1 |  |  |  | | 1 | 0 | 1 |  |  |  | | 1 | 1 | 1 |  |  |  | |  |
| 4 |  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **A** | **B** | **C** | **D** | **E** | **F** | | 0 | 0 | 0 |  |  |  | | 0 | 1 | 0 |  |  |  | | 1 | 0 | 0 |  |  |  | | 1 | 1 | 0 |  |  |  | | 0 | 0 | 1 |  |  |  | | 0 | 1 | 1 |  |  |  | | 1 | 0 | 1 |  |  |  | | 1 | 1 | 1 |  |  |  | |  |
| 5 |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** | **B** | **C** | **D** | **E** | | 0 | 0 |  |  |  | | 0 | 1 |  |  |  | | 1 | 0 |  |  |  | | 1 | 1 |  |  |  | |  |
| 6 |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** | **B** | **NOT A** | **NOT B** | **Q** | | 0 | 0 |  |  |  | | 0 | 1 |  |  |  | | 1 | 0 |  |  |  | | 1 | 1 |  |  |  | | Q = (NOT A) XOR (NOT B) |
| 7 |  | |  |  |  | | --- | --- | --- | | **A** | **B** | **Q** | | 0 | 0 | 0 | | 0 | 1 | 1 | | 1 | 0 | 0 | | 1 | 1 | 0 | |  |