**INSTRUCTIONS**

**Round 1**

1) Evaluate the following expressions:

a. A AND B OR C {complete table}

b. (X OR Y) AND (NOT Z) {X=1; Y=1; Z=0}

c. NOT P OR (Q AND R) {P=0; Q=1; R=1}

**ANSWER**

a:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | C | A AND B | A AND B OR C |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 1 |
| 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 |
|  |  |  |  |  |

b: (1 OR 1) AND (NOT 0)

1 AND 1

1

c: NOT 0 OR (1 AND 1)

NOT 0 OR 1

1 OR 1

1

**Round 2**

1) Evaluate the following expressions:

a. A AND (B OR C) AND (NOT D OR E) AND (F AND G)

{A=1; B=1; C=0; D=1; E=1; F=0; G=0}

b. (X OR Y) AND (NOT Z OR P) OR (Q AND R) OR (S OR T)

{X=1; Y=1; Z=0; P=1; Q=1; R=0; S=0; T=0}

**ANSWER:**

a: 1 AND (1 OR 0) AND (NOT 1 OR 1) AND (0 AND 0)

1 AND 1 AND (0 OR 1) AND 0

1 AND 1 AND 1 AND 0

1 AND 0

0

b: (1 OR 1) AND (NOT 0 OR 1) OR (1 AND 0) OR (0 OR 0)

1 AND (1 OR 1) OR 0 OR 0

1 AND 1 OR 0 OR 0

1 OR 0 OR 0

1

**Round 3**

1) Evaluate the following expressions:

a. (A > 5) AND (B <= 10) OR (C == 7) {A=10; B=1; C=7}

b. (X + Y < 20) AND (NOT (Z >= 15)) {X=10; Y=5; Z=20}

c. (P \* Q > 25) OR (R - S == 10) {P=5; Q=2; R=15}

**ANSWER:**

a: (10 > 5) AND (1 <= 10) OR ( 7 == 7)

TRUE AND TRUE OR TRUE

TRUE OR TRUE

TRUE

b: (10 + 5 < 20) AND (NOT (20 >= 15))

TRUE AND (NOT TRUE)

TRUE AND FALSE

FALSE

c: (5 \* 2 > 25) OR (15 – 9 ==10)

(10 > 25) OR (6 == 10)

FALSE OR FALSE

FALSE