

Sample 1:

Part A:

boolean a = false, b = true, c = false, d = true;

$((c) \vee ((d \wedge a))) \vee ((b \wedge a) \vee d) \vee ((\neg a \wedge \neg c) \vee b)$

TRUE

Part B:

boolean a = false, b = true, c = false, d = true;

$((a \wedge c) \vee (\neg b)) \vee (((b \wedge a) \vee d) \wedge (c \vee (d \wedge a)))$

FALSE

Part C:

int a = 2, b = 3, c = 2, d = 5;

$((a + b == b + d) \vee ((a > c))) \vee ((c < d) \wedge a != d)$

TRUE

Part D:

int a = 2, b = 3, c = 2, d = 5;

$((a != b + c) \wedge (c >= b) \wedge (d < c)) \vee ((c < a) \vee (a < c)) \vee (a + c < d)$

TRUE

Sample 2:

Part A:

```
boolean    a = false, b = false, c = true, d = true;
```

`(c || (a && d)) || ((c && a) || d) && (!a && !c) || d` **TRUE**

Part B:

```
boolean    a = false, b = false, c = true, d = true;
```

`((b && d) || !a) || ((d && a) || c) && (a || (b && c))` **FALSE**

Part C:

```
int    a = 1, b = 2, c = 2, d = 3;
```

`((a > c) || (a + d <= b + c)) || ((a != d) && (c < d))` **TRUE**

Part D:

```
int    a = 1, b = 2, c = 2, d = 3;
```

`(a < b + c) && (b >= c) && (d < c) || ((c < a) && (a > c)) || c == d - a` **TRUE**