HW5.1. Boolean Algebra

Simplify the following boolean expressions:

Use `!` for NOT, `*` for AND, `+` for OR, `1` for TRUE, and `0` for FALSE.

Operator precedence is NOT, AND, OR. Do not include parentheses or spaces on any answer (You shouldn't need parentheses).

Q1.1: `!(x * !x)`

1 — ✓ 100%

Q1.2: `!(x*!x + !x*!x) + x`

x — ✓ 100%

Q1.3: `a*(a + b + c + ...)`

a — ✓ 100%

Q1.4: `(!a + !b)*(a + !b)`

!b — ✓ 100%

Try a new variant

Correct answer

Q1.1: `!(x * !x)`

`1`

Q1.2: `!(x*!x + !x*!x) + x`

`x`

Q1.3: `a*(a + b + c + ...)`

`a`

Q1.4: `(!a + !b)*(a + !b)`

`!b`

Q1.1: `!(x * !x)`

```
!(0)

1
```

Q1.2: `!(x*!x + !x*!x) + x`

```
!(0 + !x) + x

!(!x) + x

x + x

x
```

Q1.3: `a*(a + b + c + ...)`

```
aa + ab + ac + ...
```

Homework 5

Assessment overview

Total points:	100/100
Score:	100%

Question

Value:	10
History:	10 10
Awarded points:	10/10

Report an error in this question

Previous question

Next question

Attached files

No attached files

Attach a file

Attach text

```
a + ab + ac + ...
```

```
a*(1 + b + c + ...)
```

```
a*(1)
```

```
a
```

Q1.4: `(!a + !b)*(a + !b)`

```
(!a * a) + (!a * !b) + (!b * a) + (!b * !b)
```

```
(0) + (!a * !b) + (!b * a) + (!b)
```

```
!b * (!a + a + 1)
```

```
!b
```

Submitted answer **correct: 100%**

Submitted at 2022-10-20 23:59:54 (PDT)

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Q1.1: `!(x * !x)`

`1` ✓ 100%

Q1.2: `!(x*!x + !x*!x) + x`

`x` ✓ 100%

Q1.3: `a*(a + b + c + ...)`

`a` ✓ 100%

Q1.4: `(!a + !b)*(a + !b)`

`!b` ✓ 100%