

Do these manually & in python:

① $((23 > 42) \text{ and } (36 > 12)) \text{ or } (39 \leq 23)$

$= (\text{false}, \text{and true}) \text{ or } (39 \leq 23)$

$= \text{false or } (39 \leq 23)$

$= \text{false or false}$

$= \text{false}$

② result = (True or False) and (not True)

result = (True or False) and False

result = True ✓ and False ✓

result = False ✓

③ $is_valid = 10 > 5 \text{ and } 2+3 \times 2 \neq 10 \text{ or not } (5 < 2)$

$is_valid = 10 > 5 \text{ and } 2+3 \times 2 \neq 10 \text{ or not False}$ ✓

$is_valid = 10 > 5 \text{ and } 2+3 \times 2 \neq 10 \text{ or true}$

$is_valid = \text{true and false or true}$ ✓

$is_valid = \text{false or true}$ ✓

$is_valid = \text{true}$ ✓

Evaluate the expressions
and show it

$$2+3 \times 2 \neq 10$$

$$2+6 \neq 10$$

$$8 \neq 10$$

True

④ $check = not (15 // 3 == 5 \text{ and } 7 \% 2 == 0) \text{ or } 2 ** 3 < 10$

$check = not (true \text{ and } False) \text{ or } 2 ** 3 < 10$

$check = not (False) \text{ or } 2 ** 3 < 10$

$check = true \text{ or } 2 ** 3 < 10$

$check = true \text{ or } true$

$check = true$ ✓

↓
Evaluate the expression & show it
 $2 \times 2 \times 2 < 10$
 $8 < 10$ True