M. Haaif Furqan MatSis 1st Assignment 9/9/202
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Ex. 1.1
18. a. True
b. True
c. False
d. True
42. a. x = 2
b. x = 1
c. x = 2
d. x = 1
e. x = 2

Ex. 1.2
8. Those friend invited with "non-unhappy" is jasmine & kamti "jasmine
↳ (jasmine ∧ kamti) ⊕ jasmine
40. [redacted]
a. ~P ∨ ~q
b. (P ∨ (~P ∧ q))

Ex 1.3
8. a Kwame won't take algb in Industry or gonna go to graduate School
b. Yoshiko dont know Java or Calculus
c. James isn't young and isn't strong
d. Rita won't move to Oregon or Washington

10.
a

P	q	[~P ∧ (P ∨ q)] → q
0	0	1
1	0	1
0	1	1
1	1	1

b.

P	q	r	[(P → q) ∧ (q → r)] → (P → r)
0	0	0	[1 ∧ 1] → 1 = 1
1	0	0	[0 ∧ 1] → 1 = 1
0	1	0	[1 ∧ 0] → 1 = 1
0	0	1	[1 ∧ 1] → 0 = 1
1	1	0	[1 ∧ 0] → 0 = 1
1	0	1	[0 ∧ 1] → 1 = 1
0	1	1	[1 ∧ 1] → 1 = 1
1	1	1	[1 ∧ 1] → 1 = 1

c.

P	q	[P ∧ (P → q)] → q
0	0	1
1	0	1
0	1	1
1	1	1

d.

P	q	r	[(P ∨ q) ∧ (P → r) ∧ (q → r)] → r
0	0	0	[0 ∧ 1 ∧ 1] → 0 = 1
1	0	0	[0 ∧ 0 ∧ 1] → 0 = 1
0	1	0	[0 ∧ 1 ∧ 0] → 0 = 1
0	0	1	[0 ∧ 1 ∧ 1] → 1 = 1
1	1	0	[1 ∧ 1 ∧ 1] → 0 = 1
1	0	1	[0 ∧ 1 ∧ 1] → 1 = 1
0	1	1	[0 ∧ 1 ∧ 1] → 1 = 1
1	1	1	[1 ∧ 1 ∧ 1] → 1 = 1