Homework 22, Section 3.4: 1(b,d), 4(b,d), 6(d), 10

Alex Gordon

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Homework

1. B)

$(ab')' = a' + (ab)$

1. D)

$((a'b) + a)' = a'b'$

4. B)

Prove $ab + bc = (a + c)b$

$$= ab + bc$$
$$= b(a + c) \quad distributive$$

By the commutative property, several steps were not explained per Professor Senning saying that we really didn't have to show them.

4. D)

Prove $ab + (a' + c)' = a(b + c')$

$$= ab + (a')')c' \quad (DeMorgansLaw) \qquad = ab + ac' \quad (DoubleNegative)$$
$$= a(b + c') \quad (Distributive)$$

6. D)

	1	2	5	7	10	14	35	70
1	1	1	1	1	1	1	1	1
2	1	2	1	1	2	2	1	2
5	1	1	5	1	5	1	5	5
7	1	1	1	7	1	7	7	7
10	1	2	5	1	10	2	5	10
14	1	2	1	7	2	14	7	14
35	1	1	5	7	5	7	35	35
70	1	2	5	7	10	14	35	70

	1	2	5	7	10	14	35	70
1	1	2	5	7	10	14	35	70
2	2	2	10	14	10	14	70	70
5	5	10	5	35	10	70	35	70
7	7	14	35	7	70	14	35	70
10	10	10	10	70	10	70	70	70
14	14	14	70	14	70	14	70	70
35	35	70	35	35	70	70	35	70
70	70	70	70	70	70	70	70	70

10. A

10. B

$u = 70$

10. C

$z = 1$

10. D

$1' = 70, 2' = 35, 5' = 14, 7' = 10, 10' = 7, 14' = 5, 35' = 2, 70' = 1$