Remodeling Chemical Lab: AOA CPM Example using array formulas in EXCEL

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(See below and to the right of this table for explanatory notes about the formulas used)

CPM Table for Activity-on-Arrow Network with correct FF and INDF formulas

I	J	Activity Description	T	ESD	EFD	LSD	LFD	TF	FF	INTF	INDF	Crit	ESDforFF	LFDforINDF	Example from new Harris Chapter 6.
02	04	Strip room	3	0	3	3	6	3	0	3	0		0	6	1. Changing the following two durations
02	12	Obtain fume hood	14	0	14	2	16	2	0	2	0		0	16	from 10 to 14
02	14	Obtain cabinets	15	0	15	0	15	0	0	0	0	C	0	15	from 10 to 15
02	20	Obtain chemical sink	10	0	10	9	19	9	6	3	6		0	19	
02	24	Painter availability	20	0	20	2	22	2	2	0	2		0	22	
02	28	Obtain vinyl floor covering	5	0	5	23	28	23	23	0	23		0	28	
04	06	Rough-in plumbing and electrical	5	3	8	6	11	3	0	3	0		3	11	
04	08	Replace existing fume duct	3	3	6	8	11	5	2	3	0		3	11	
06	08	Dummy	0	8	8	11	11	3	0	3	0		8	11	3. And this changes the FF(06,10)
06	10	Repair floor	1	8	9	14	15	6	5	1	2		8	15	from 3 to 5.
08	10	Repair walls and ceiling	4	8	12	11	15	3	2	1	0		8	15	2. Changes the ESD of the direct succ of the dummies
10	12	Dummy	0	12	12	16	16	4	2	2	0		14	15	from 12 to 14
10	14	Dummy	0	12	12	15	15	3	3	0	0		15	15	from 12 to 15
12	16	Install new fume hood	1	14	15	16	17	2	0	2	0		14	17	
14	16	Dummy	0	15	15	17	17	2	0	2	0		15	15	
14	22	Install wall cabinets	5	15	20	15	20	0	0	0	0	C	15	20	
16	18	Install 1/3 base cabinets	1	15	16	17	18	2	0	2	0		15	18	
18	20	Dummy	0	16	16	19	19	3	0	3	0		16	18	
18	22	Install 2/3 base cabinets	2	16	18	18	20	2	2	0	0		16	20	
20	22	Install chemical sink	1	16	17	19	20	3	3	0	0		16	20	
22	24	Finish plumbing and electrical	2	20	22	20	22	0	0	0	0	C	20	22	
24	26	Dummy	0	22	22	25	25	3	0	3	0		22	22	
24	28	Paint cabinets	6	22	28	22	28	0	0	0	0	C	22	28	
26	28	Paint walls and ceiling	3	22	25	25	28	3	3	0	3		22	28	
28	30	Lay vinyl floor	1	28	29	28	29	0	0	0	0	C	28	29	

Correct formulas for FF and INDF, when all succ. or pred. are dummies, require the auxiliary columns ESDforFF and LFDforINDF.

This model shows the correct INDF(26,28) = 3.

Project Duration = 29