Advanced Problems

21. Consider the office renovation project data in Table 10.11. A "zero" time estimate means that the activity could take a very small amount of time and should be treated as a numeric zero in the analysis.

a. Based on the critical path, find the probability of completing the office renovation project by 40 days.

b. Find the date by which you would be 85 percent sure of completing the project.

TABLE 10.11 | DATA FOR THE OFFICE RENOVATION PROJECT

Activity	TIME ESTIMATES (DAYS)			Immediate Predecessor(s)
	Optimistic	Most Likely	Pessimistic	
START	0	0	0	—
A	6	10	14	START
B	0	1	2	A
C	17	20	30	A
D	4	5	6	B
E	2	3	5	D
F	7	10	13	C
G	1	2	4	D
H	1	2	5	G
I	2	2	2	C, G
J	1	3	5	I
K	0	1	3	H
L	0	2	4	J, K
FINISH	0	0	0	E, F, L

22. The project manager of Good Public Relations gathered the data shown in Table 10.12 for a new advertising campaign.

a. How long is the project likely to take?

b. What is the probability that the project will take more than 37 weeks?

c. Consider the path A–E–G–H–J. What is the probability that this path will exceed 37 weeks?

TABLE 10.12 | ACTIVITY DATA FOR ADVERTISING PROJECT

Activity	TIME ESTIMATES (WEEKS)			Immediate Predecessor(s)
	Optimistic	Most Likely	Pessimistic	
A	7	10	13	START
B	4	8	16	START
C	7	8	9	START
D	1	2	4	B
E	7	10	11	A, C
F	4	6	7	D, E
G	1	3	6	D, E
H	1	5	7	F, G
I	1	4	6	G
J	3	5	9	H
K	3	3	3	H