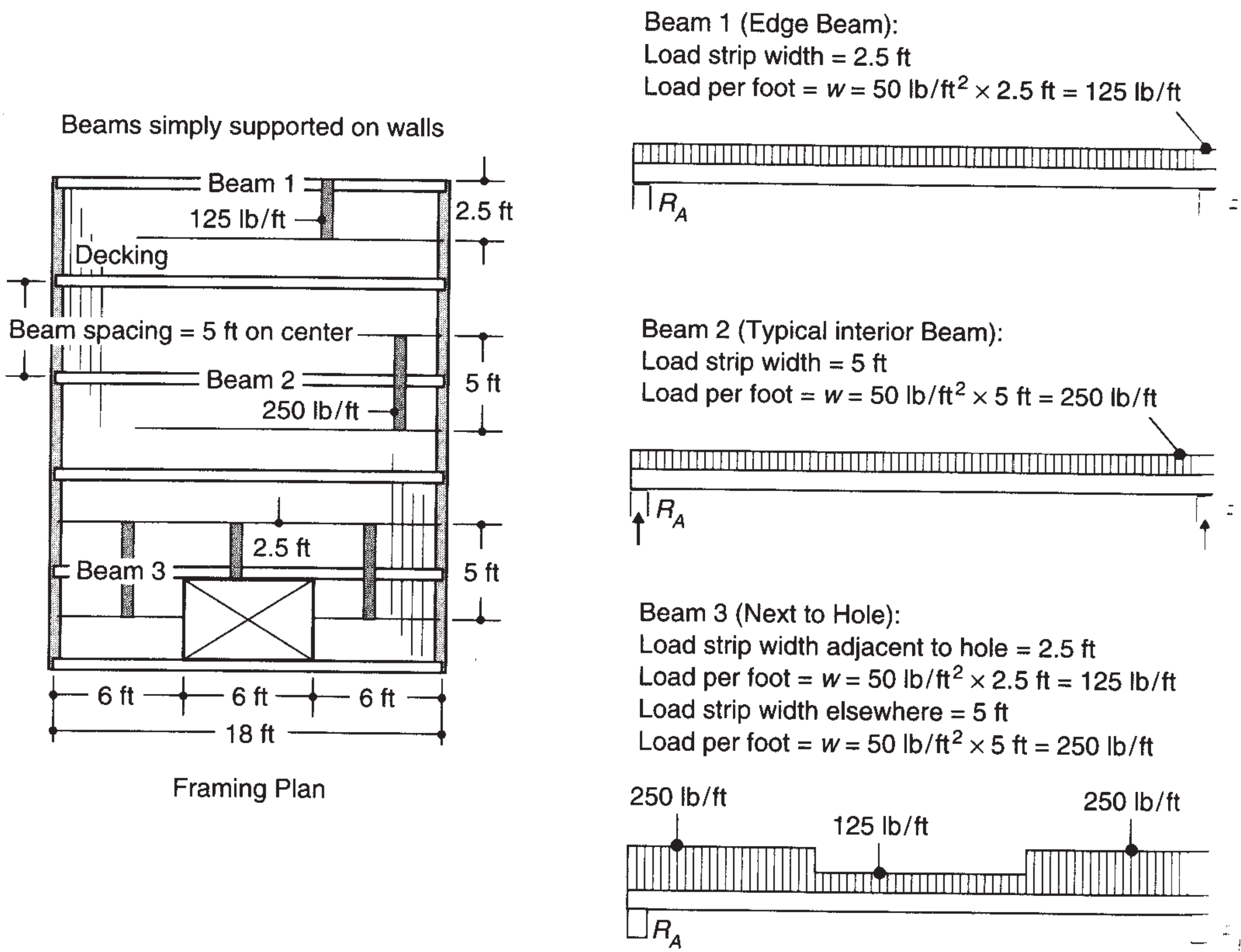
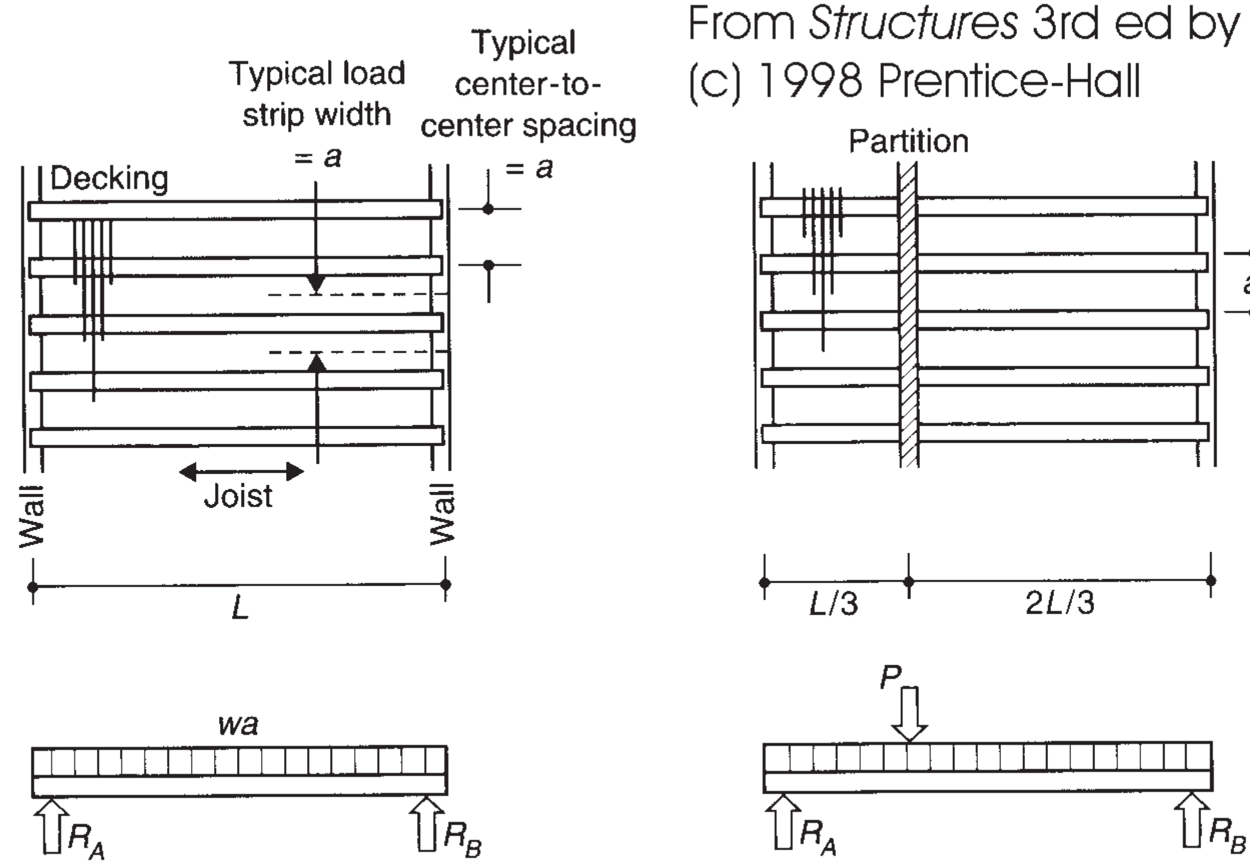


FIGURE 3-12 Load modeling.



(a) Basic joist system.

(b) Joist system supporting a partition.

FIGURE 3-13 Example of floor framing system.

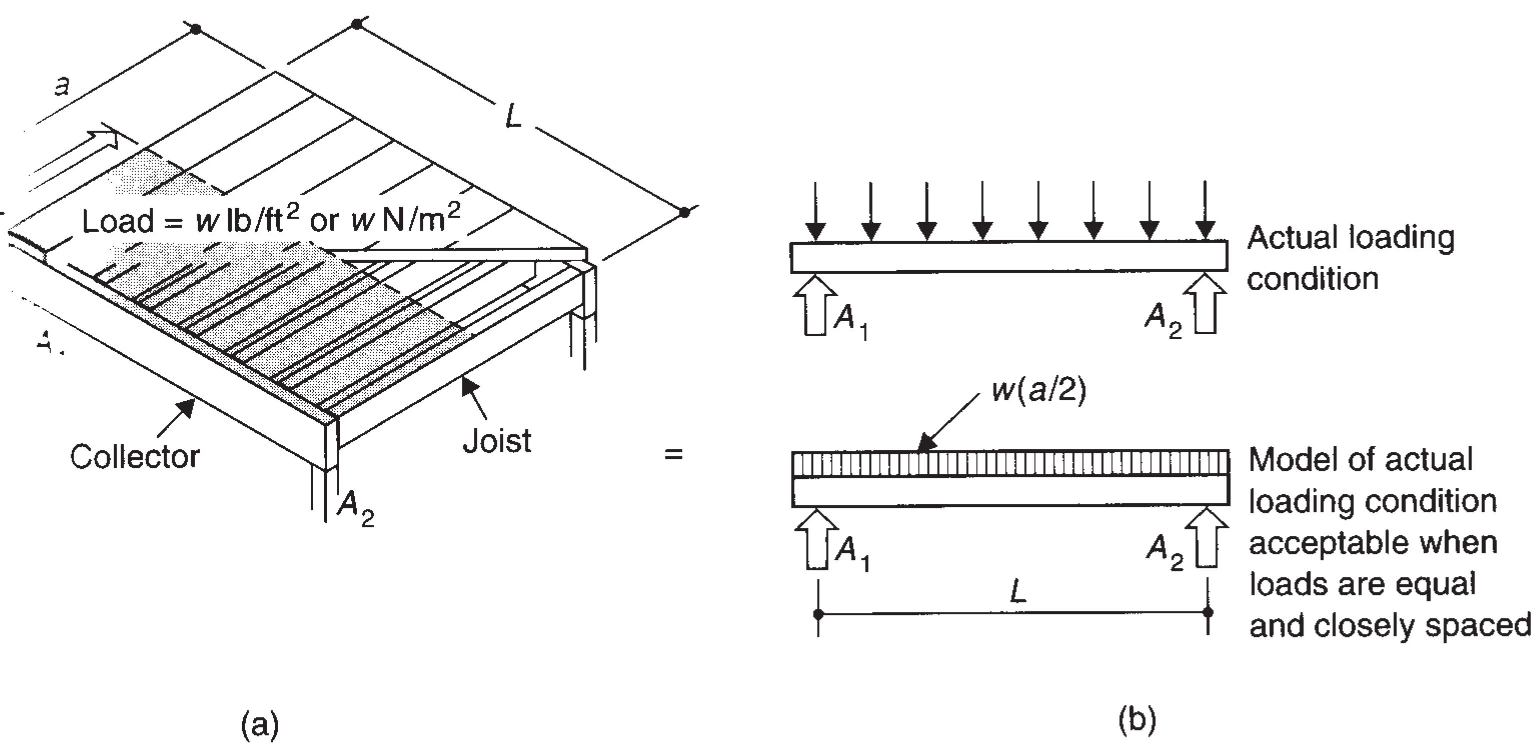
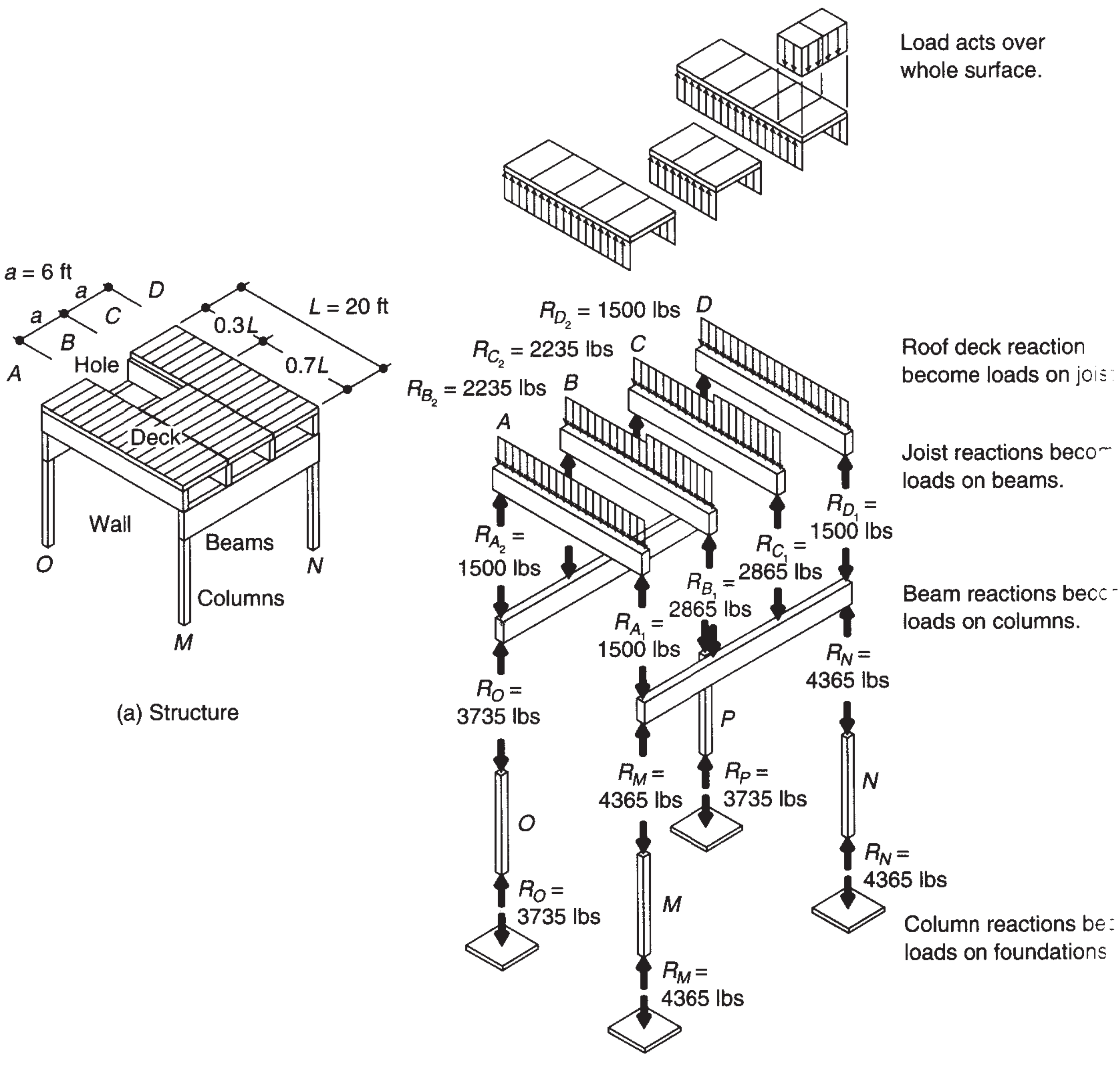


FIGURE 3-14 An equivalent uniformly distributed load can be used to approximate a series of closely ...centrated loads.

◆ ◆ **EXAMPLE** From *Structures* 3rd ed. by Schodek (c) 1998 Prentice-Hall

Determine the loads on columns *M* and *N* in the structure shown in Figure 3-15. Assume that the lo… given by w_T lb/ft^2 and that this value reflects both live and dead loads. Assume $L = 20$ ft, $a = 6$ … $w_T = 50$ lb/ft^2.

Solution: The first step is to determine how the surface load is channeled to the columns. This is best … drawing free-body diagrams for each element in the structure (see Figure 3-15). To determine the mag… of the column loads it is necessary first to calculate the load carried by each joist, then to calculate the re… for each joist, and finally to calculate the reactions of the beams that carry the joists. These reactions …



(b) Free-body diagrams.

FIGURE 3-15 Example structure.