



Fig. 6.14  
Free-body diagram—lever rule  
method.

$$R_A(8) = \left(\frac{P}{2}\right)(8) + \left(\frac{P}{2}\right)(2)$$

which reduces to

$$R_A = \left(\frac{P}{2}\right) + \left(\frac{P}{2}\right)\left(\frac{2}{8}\right) = 0.625P$$

The fraction of the truck weight  $P$  that is carried by the exterior girder is 0.625. The multiple presence factor of 1.2 (see Table 4.6) is applicable for the one-lane loaded case. Thus, the girder distribution factors are

$$mg_{\text{shear or moment}}^{\text{SE}} = (1.2)(0.625) = 0.75 \text{ lane/girder}$$

and

$$mg_{\text{shear or moment}}^{\text{ME}} = (1.0)(0.625) = 0.625 \text{ lane/girder}$$

This factor is “statically” the same for one and two lanes loaded because the wheel loads from the adjacent truck (2) cannot be distributed to the exterior girder. Because all the wheels lie inside the first interior girder, the effect of