

























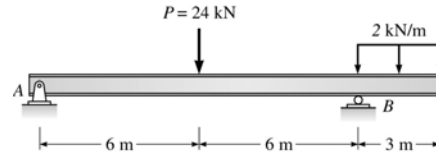
### Application of the Equations of Equilibrium

#### Equations of Equilibrium

- Check is the structure is determinate and stable
- Attempt to apply the moment equation  $\Sigma M = 0$  at a point that lies at the intersection of the lines of action of as many forces as possible
- When applying  $\Sigma F_x = 0$  and  $\Sigma F_y = 0$ , orient the  $x$  and  $y$  axes along lines that will provide the simplest reduction of forces into their  $x$  and  $y$  components
- If the solution of the equilibrium equations yields a *negative* value for an unknown, it indicates that the direction is *opposite* of that assumed

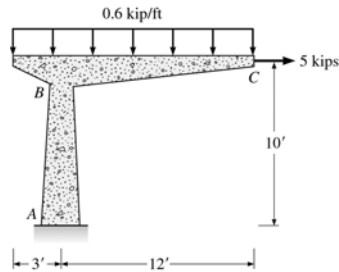
### Application of the Equations of Equilibrium

Draw the free-body diagram and determine the reactions for the following structures



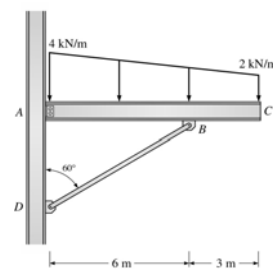
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### Analysis of Statically Determinate Structures

Any Questions?

