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## **Steps to draw shear and moment diagrams**

### → By using the area method (recommended)

- 1) Find reactions,
- 2) Draw the shear diagram,  $V(x)$ ,
- 3) Compute area under the shear diagram,
- 4) Draw moment diagram,  $M(x)$ , by using the area under the shear diagram.

### → By deriving shear and moment equations

- 1) Find reactions,
- 2) Cut the beam at an arbitrary location(s) (wherever there are discontinuities in loading) and derive the shear and moment equations by drawing the Free Body Diagram (FBD) and applying equilibrium at the cut,
- 3) Draw the shear,  $V(x)$ , and moment,  $M(x)$ , diagrams by plotting the equations from 2).