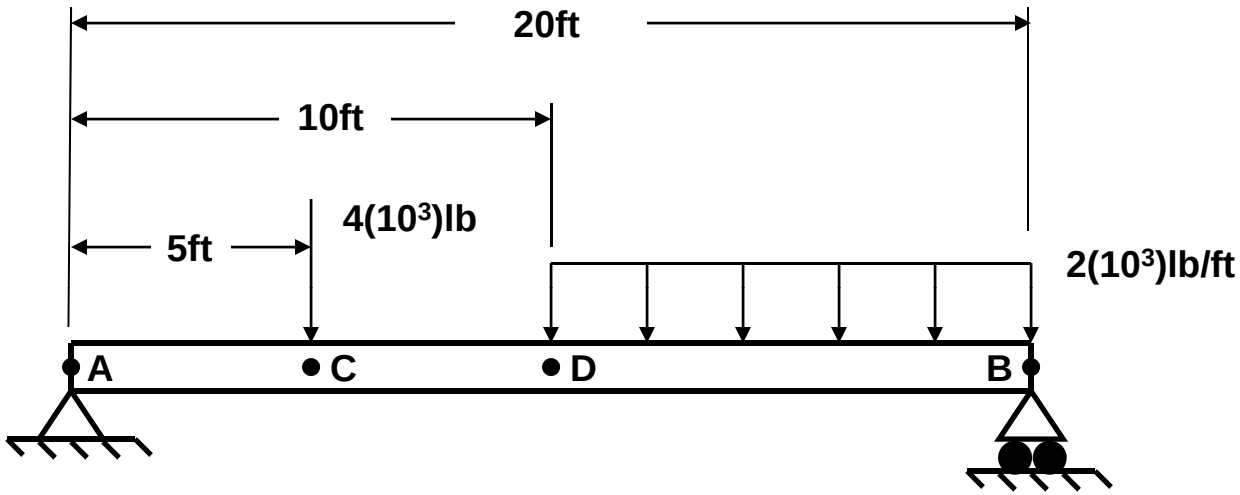
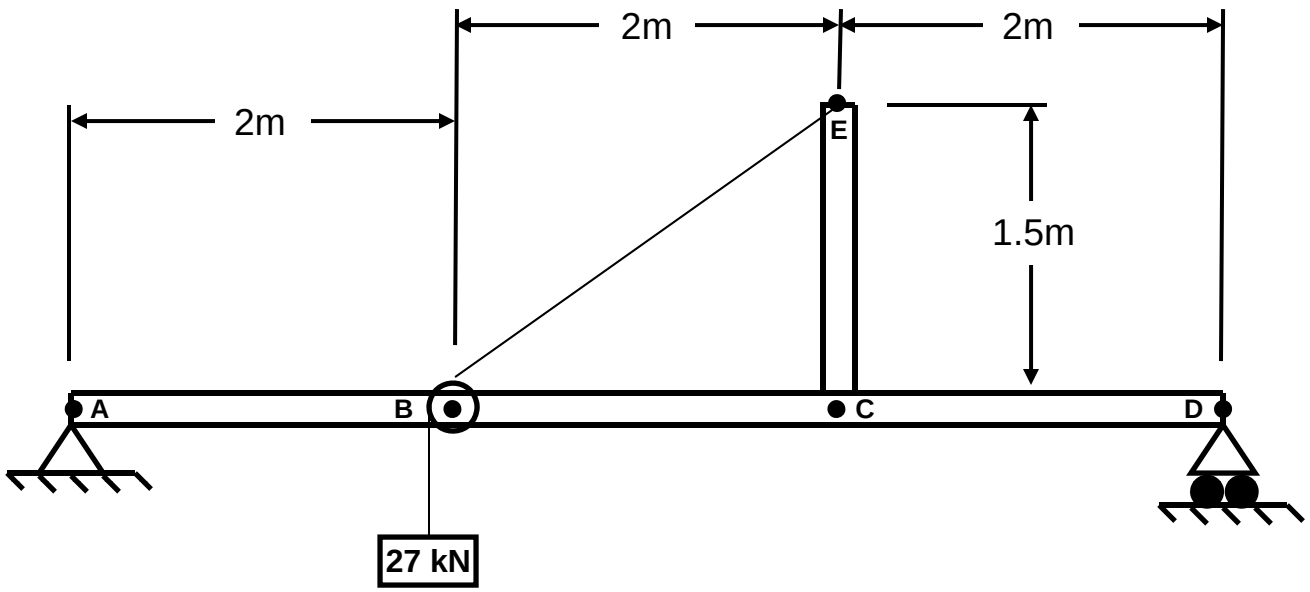
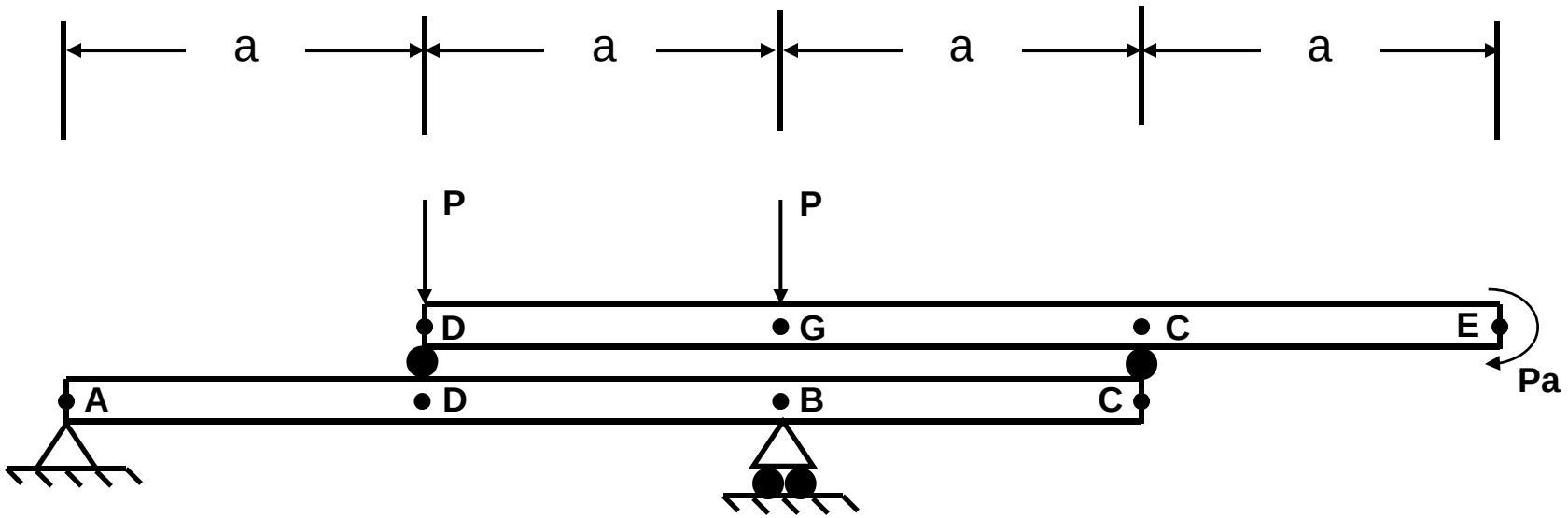


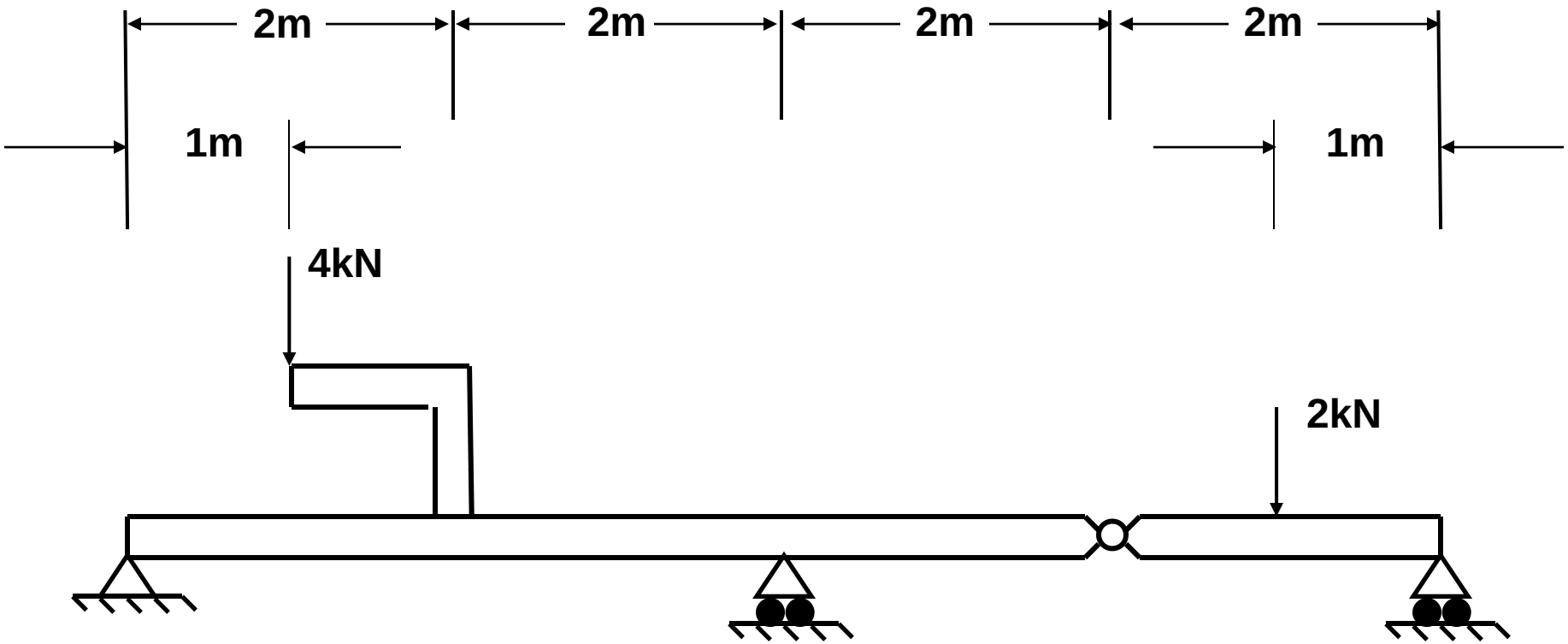
Problem 1: Determine the shear force V and the bending moment M at the midpoint of the simple beam AB shown



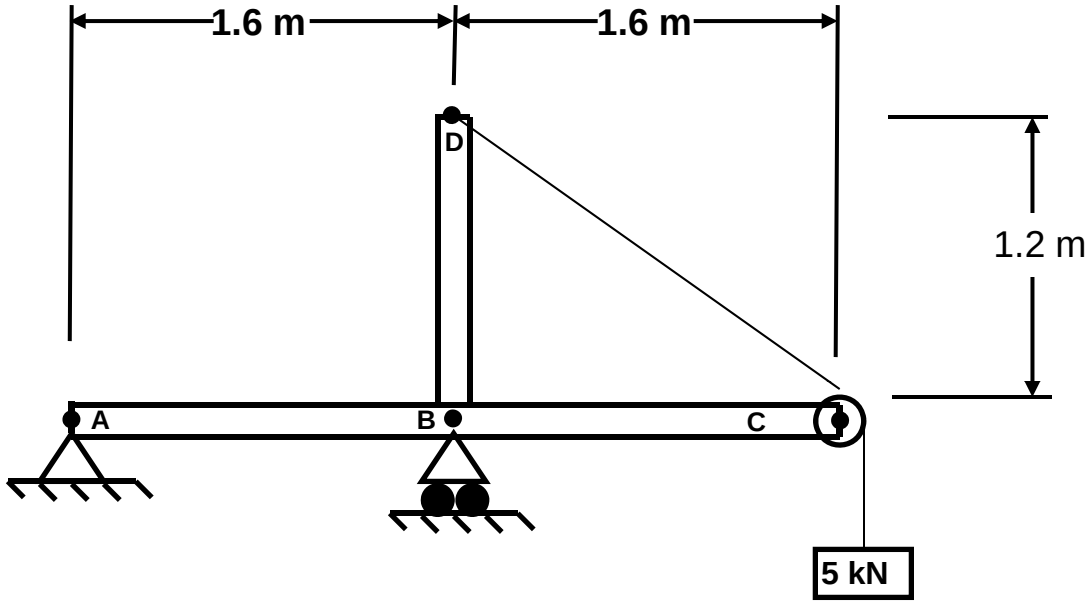
Problem 2: The beam ABCD is loaded by a force W=27kN by the arrangement shown in the figure. The cable passes over a small frictionless pulley at "B" and is attached at "E" to the vertical arm. Determine expressions for the axial force N, shear force V, and the bending moment M along the length of the beam. Draw the normal, shear, and bending moment diagrams.



Problem 3: A simple beam "AB" with an overhang "BC" is loaded by two forces P and a couple Pa through the arrangement shown in the figure. Draw the shear and bending moment diagram for the beam "ABC".



Problem 4. The beam ABCDE shown in the figure has simple supports at A, C, and E and a hinge C (or pin) at D. A load of 4kN acts at the end of the bracket that extends from the beam at B, and a load of 2kN acts at the midpoint of part DE. Draw the shear force and bending moment diagrams for the beam.



Problem 5. Construct shear-force and bending-moment diagrams for the beam ABC loaded as shown in the figure. The cable passes over a small frictionless pulley at C and supports a weight W=5kN.