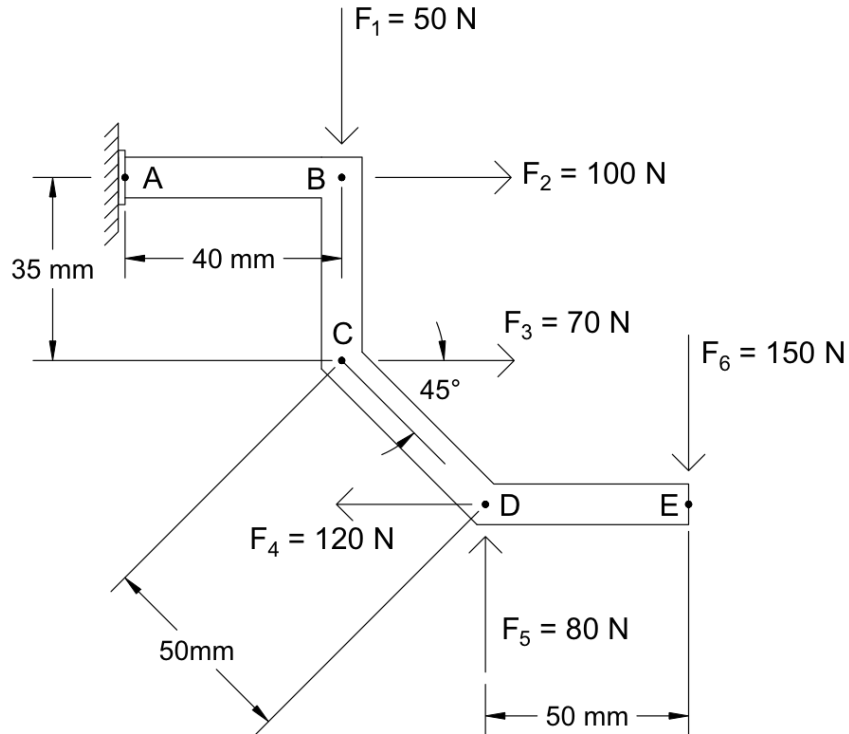
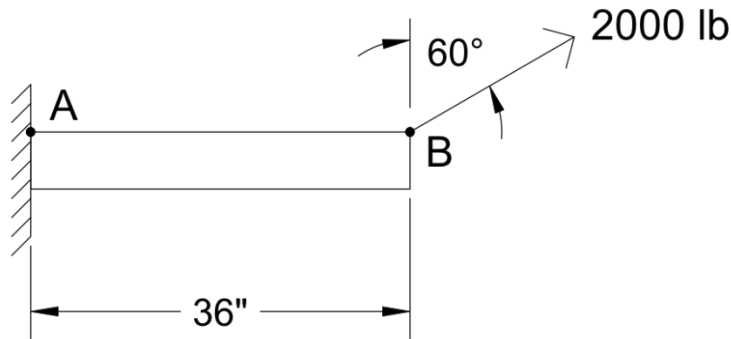


7. 2D Moments, Cross Product, Varignon's Theorem

1. The pipe is subjected to the six forces shown.
 - a. Determine the moment of each of the six forces about point A.
 - b. Determine the resultant moment of the six forces acting on the pipe about Point A. Specify the direction of the resultant moment.
 - c. Determine the resultant moment of the six forces acting on the pipe about Point D. Specify the direction of the resultant moment.

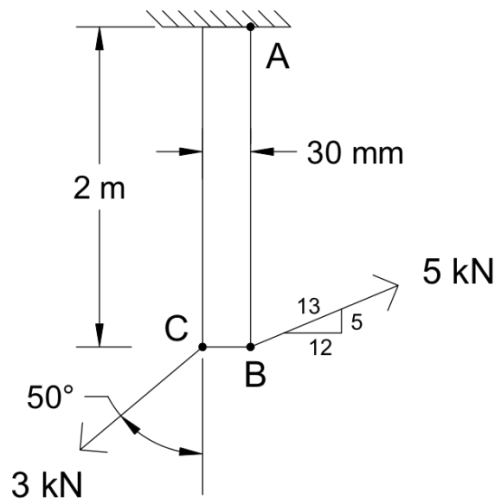


2. For each case below, find the resultant moment produced by the force(s) about point A.

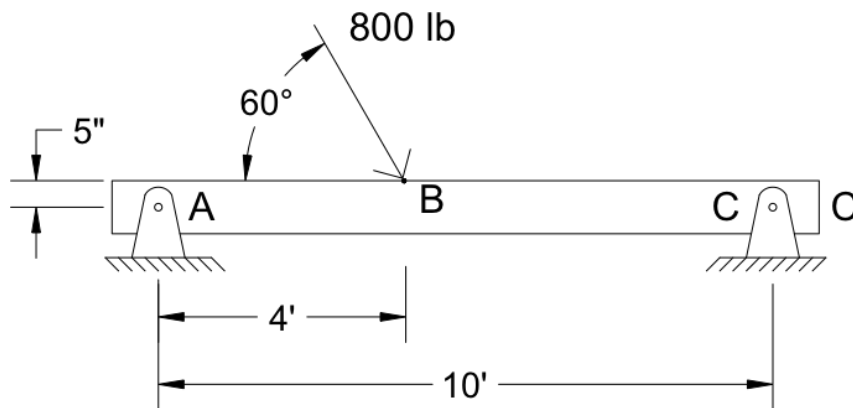


(a)

7. 2D Moments, Cross Product, Varignon's Theorem



(b)



(c)

3. Given vectors \mathbf{A} and \mathbf{B} , determine $\mathbf{C} = \mathbf{A} \times \mathbf{B}$ and $\mathbf{D} = \mathbf{B} \times \mathbf{A}$ for each case below.
- $\mathbf{A} = \mathbf{i}$; $\mathbf{B} = \mathbf{k}$
 - $\mathbf{A} = \mathbf{j}$; $\mathbf{B} = \mathbf{i}$
 - $\mathbf{A} = 2\mathbf{i} - 3\mathbf{j} + 2\mathbf{k}$; $\mathbf{B} = -5\mathbf{i} + 7\mathbf{j} - 10\mathbf{k}$
 - $\mathbf{A} = 5\mathbf{i} + 2\mathbf{k}$; $\mathbf{B} = 8\mathbf{i} + 4\mathbf{j} + 6\mathbf{k}$