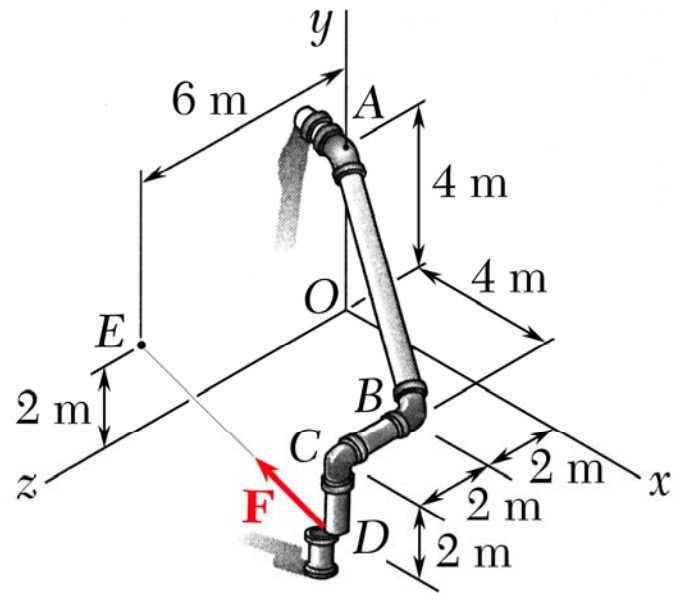


**Quiz #4** A 120-N force  $\mathbf{F}$  acts at  $D$  as shown. Determine (a) the moment  $\mathbf{M}_A$  of  $\mathbf{F}$  about  $A$ , (b) the shortest distance  $d_{s1}$  between  $A$  and the line of action of  $\mathbf{F}$ , (c) the moment  $M_{AB}$  of  $\mathbf{F}$  about the axis of  $AB$ , (d) the shortest distance  $d_{s2}$  between the line containing  $AB$  and the line of action of  $\mathbf{F}$ .

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**Answers:**

(a)  $\mathbf{M}_A = -560\mathbf{i} - 480\mathbf{j} - 160\mathbf{k} \text{ N}\cdot\text{m}$ ,

(b)  $d_{s1} = 6.29 \text{ m}$ ,

(c)  $M_{AB} = -106.7 \text{ N}\cdot\text{m}$ ,

(d)  $d_{s2} = 1.414 \text{ m}$ .