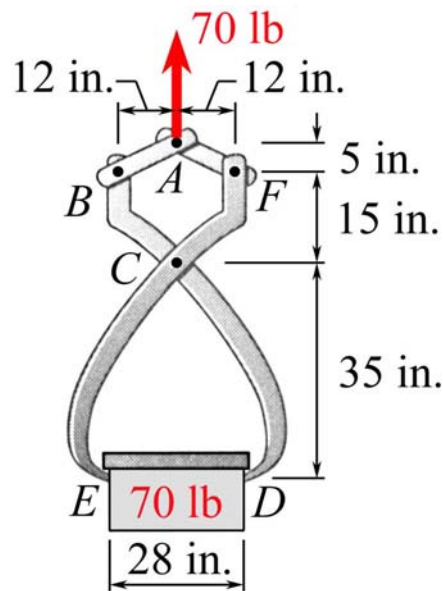


MEEG 2003 [Quiz #8.m23.073](#)

1. Define a *machine*. ①
2. Determine the reaction forces **F**, **C**, and **E** exerted on member *FCE* by the pins at *F* and *C*, and the 70-lb block at *E*, respectively, of the tongs shown. ⑨



1. A *machine* is a structure that contains one or more movable multiforce members. ①
2. *FBD* for member *FCE* with no pins ①  
*FBD* for joint A ①  
*FBD* for the 70-lb block *ED* ①  
 $F_{AF} = 91 \text{ lb}$        **$\mathbf{F} = -84\mathbf{i} + 35\mathbf{j} \text{ lb}$**  ②  
 **$\mathbf{C} = 146\mathbf{i} \text{ lb}$**  ②  
 **$\mathbf{E} = -62\mathbf{i} - 35\mathbf{j} \text{ lb}$**  ②