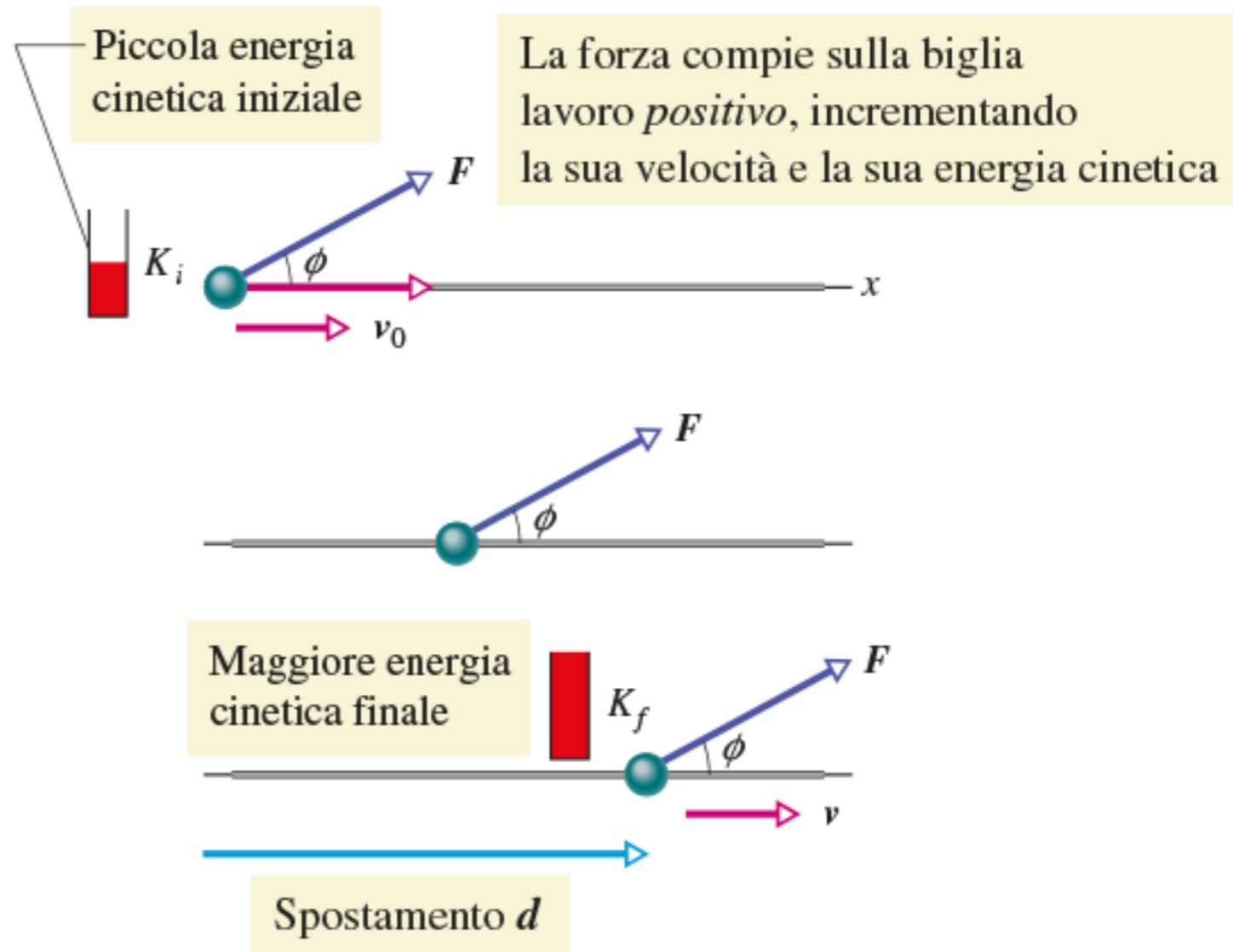
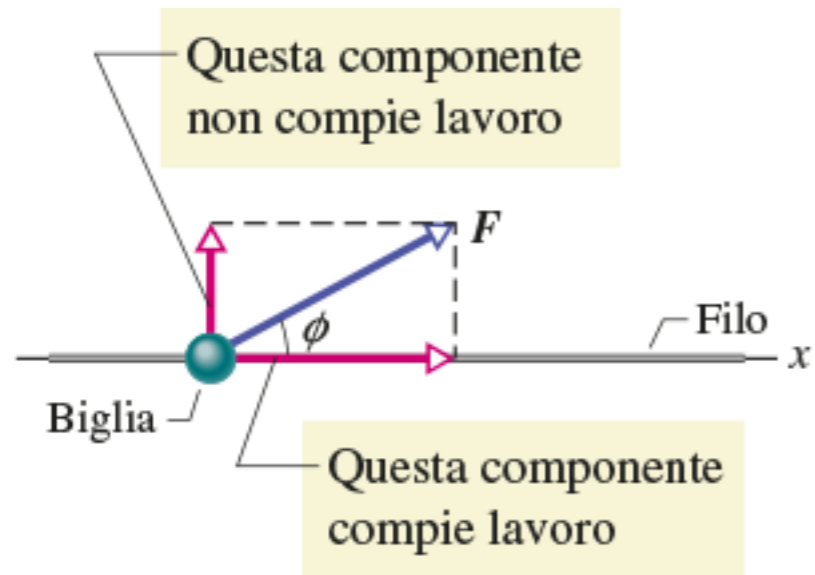
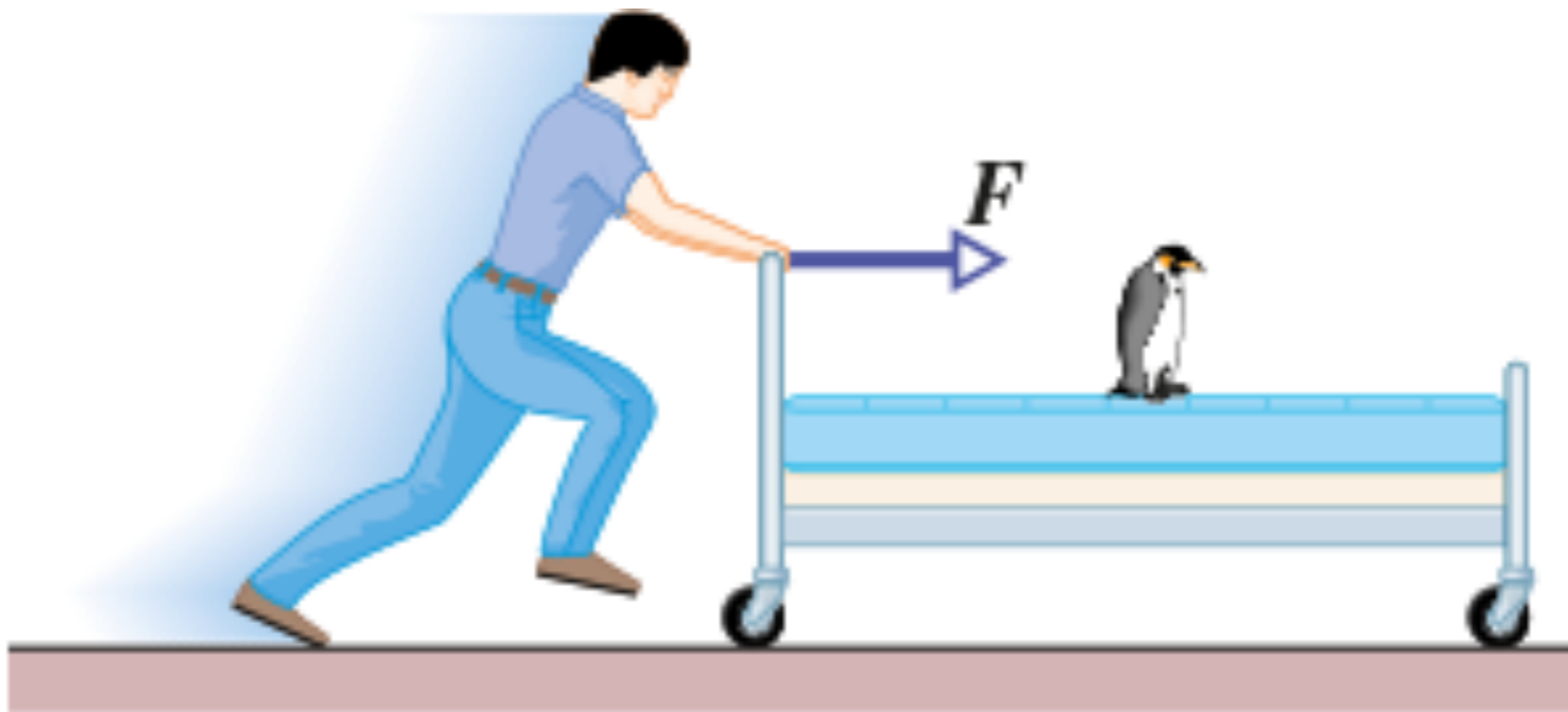


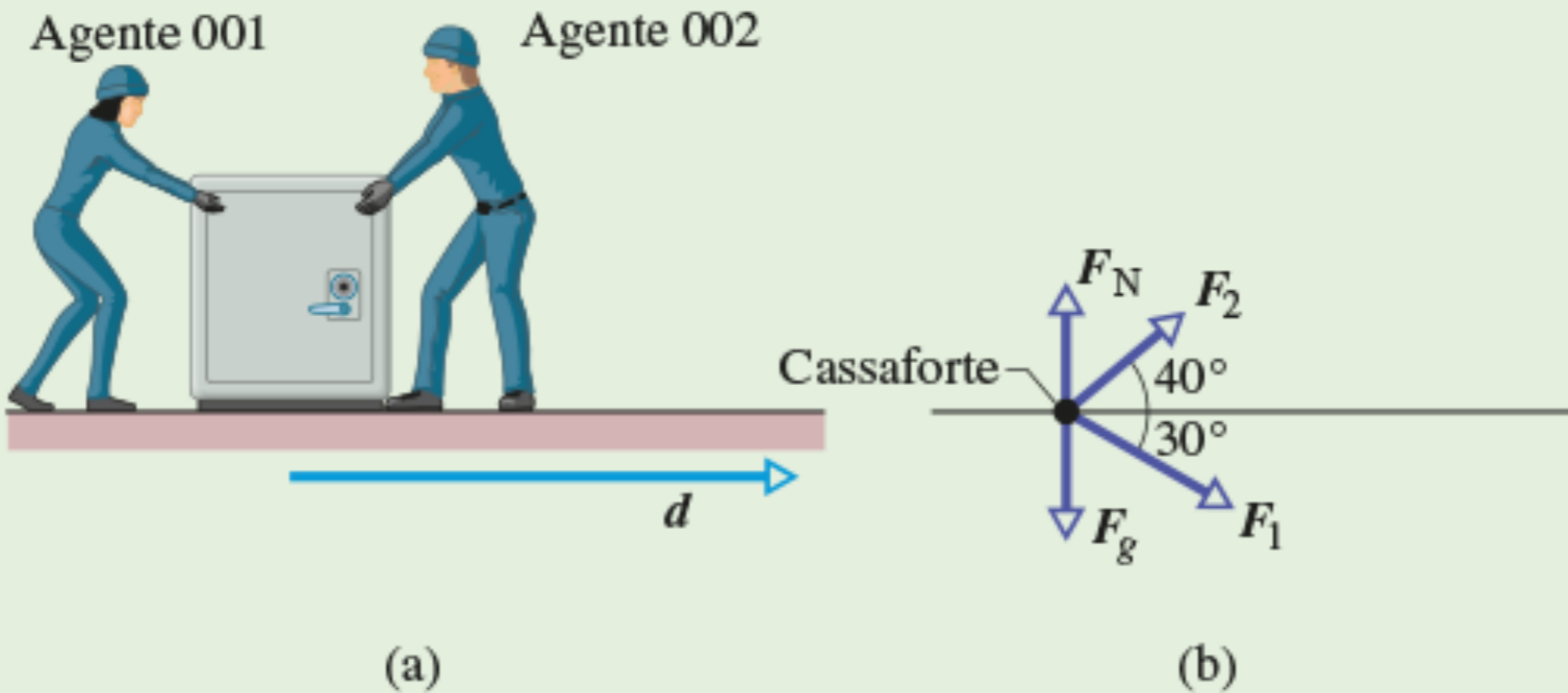


Courtesy Library of Congress

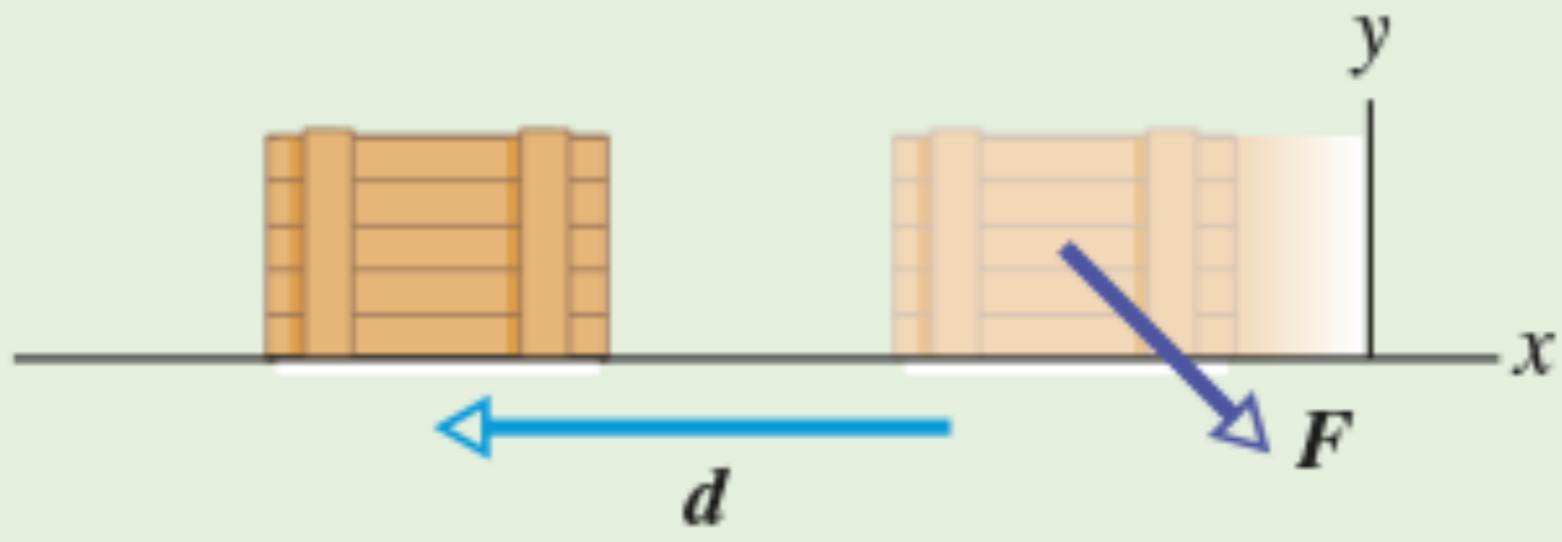


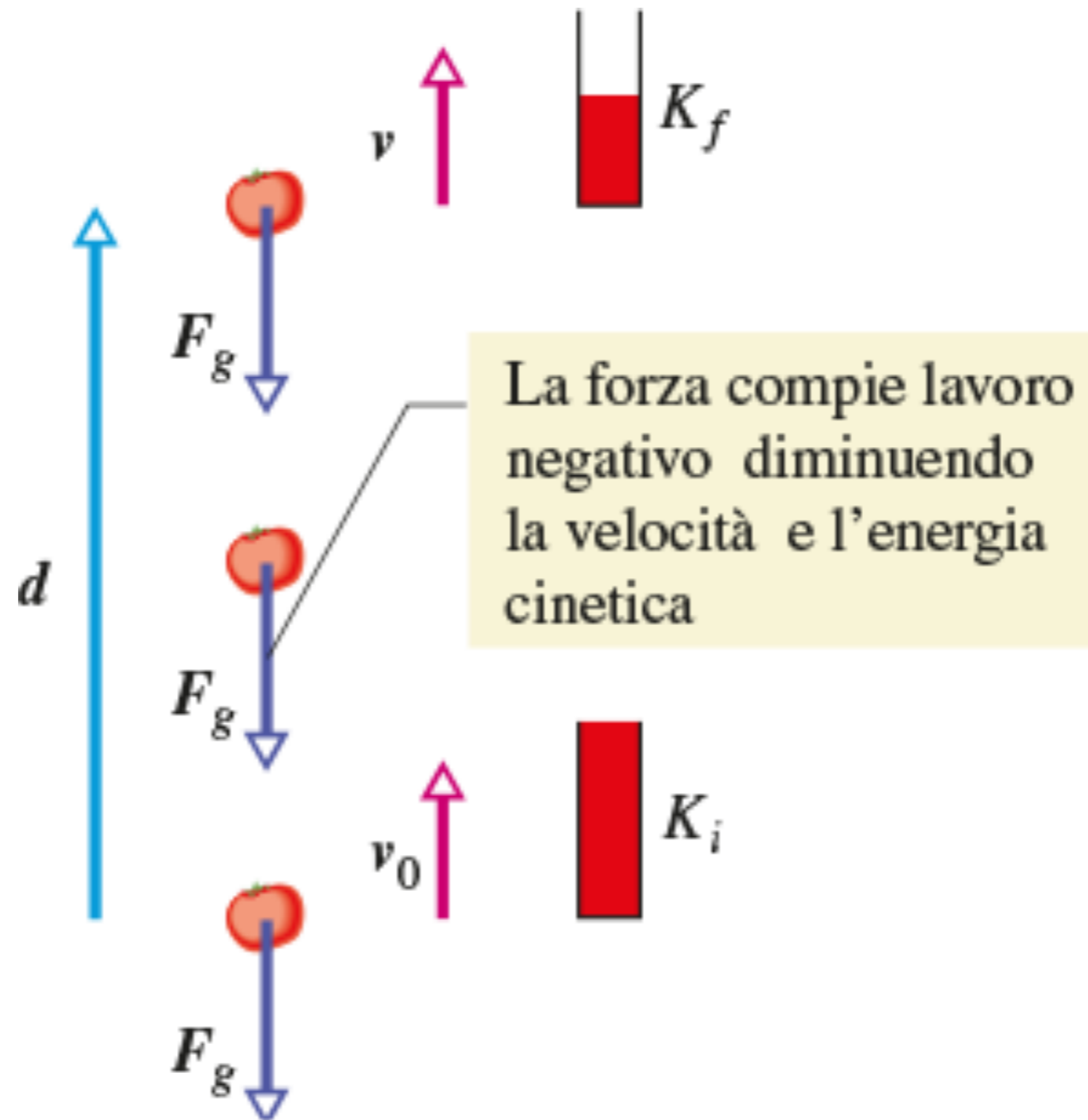


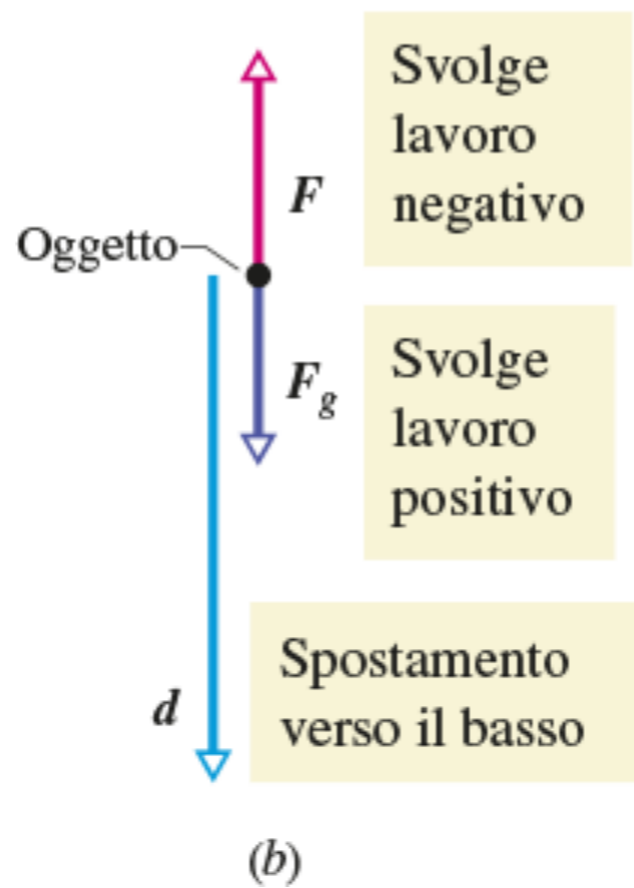
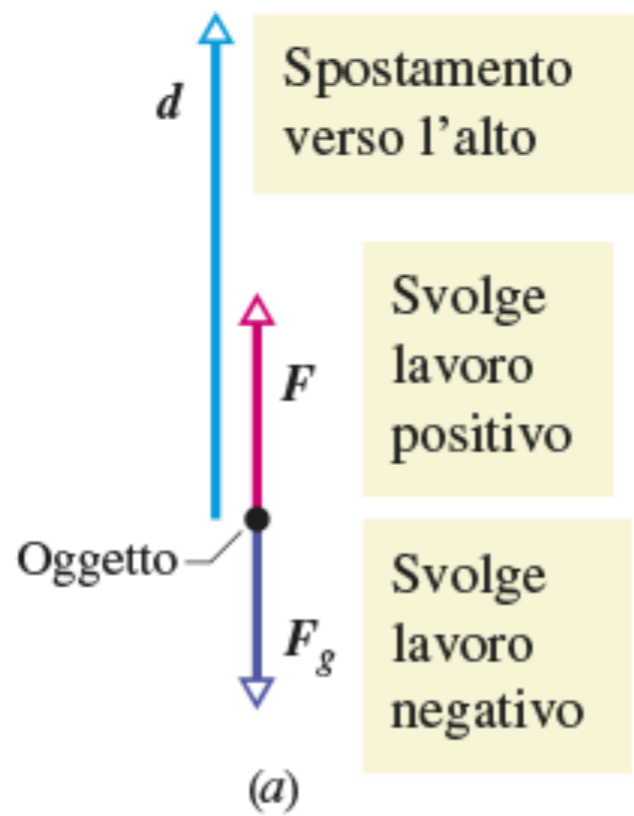
Solo le componenti della forza  
parallele allo spostamento compiono lavoro

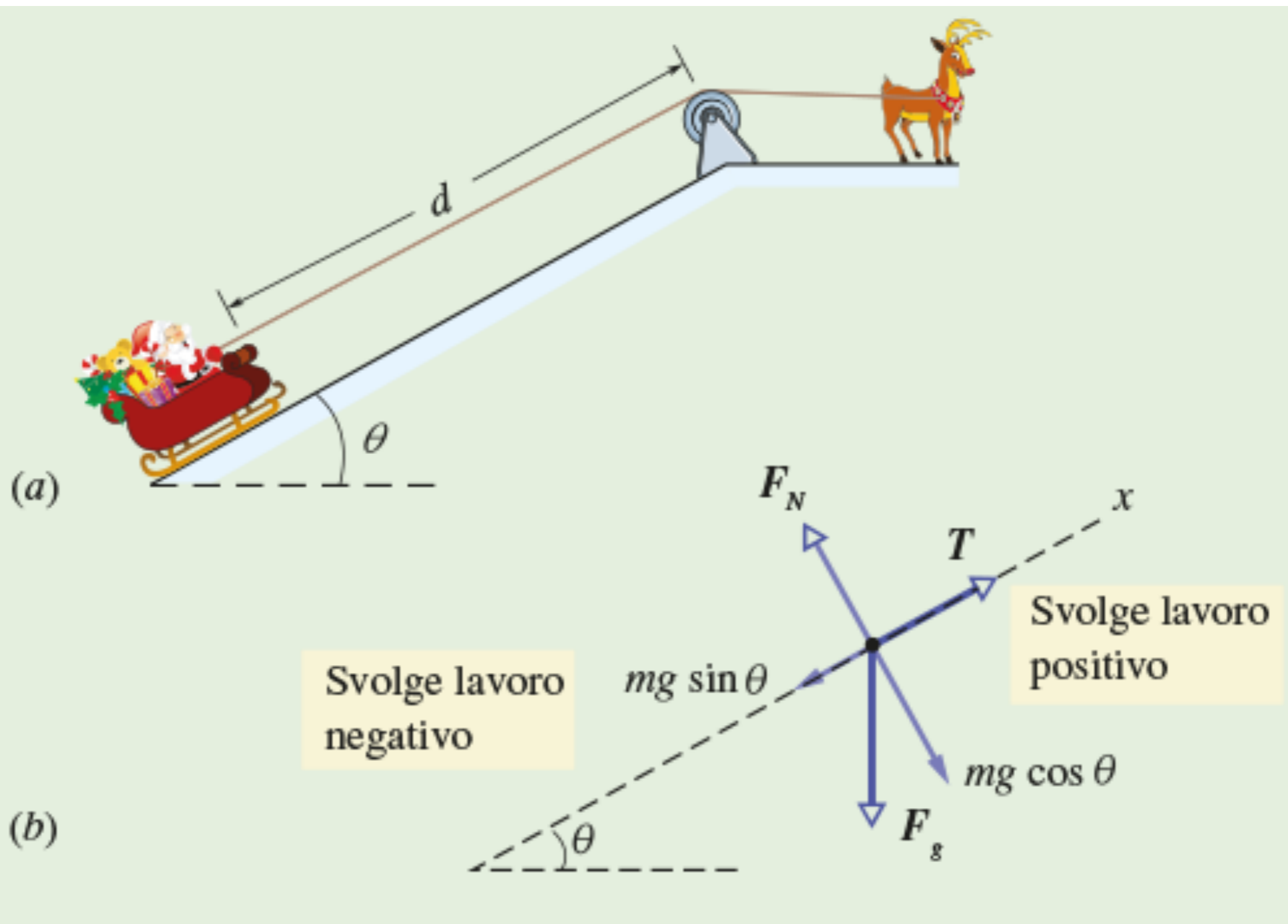


La componente parallela allo spostamento  
compie lavoro negativo sulla cassa rallentandola

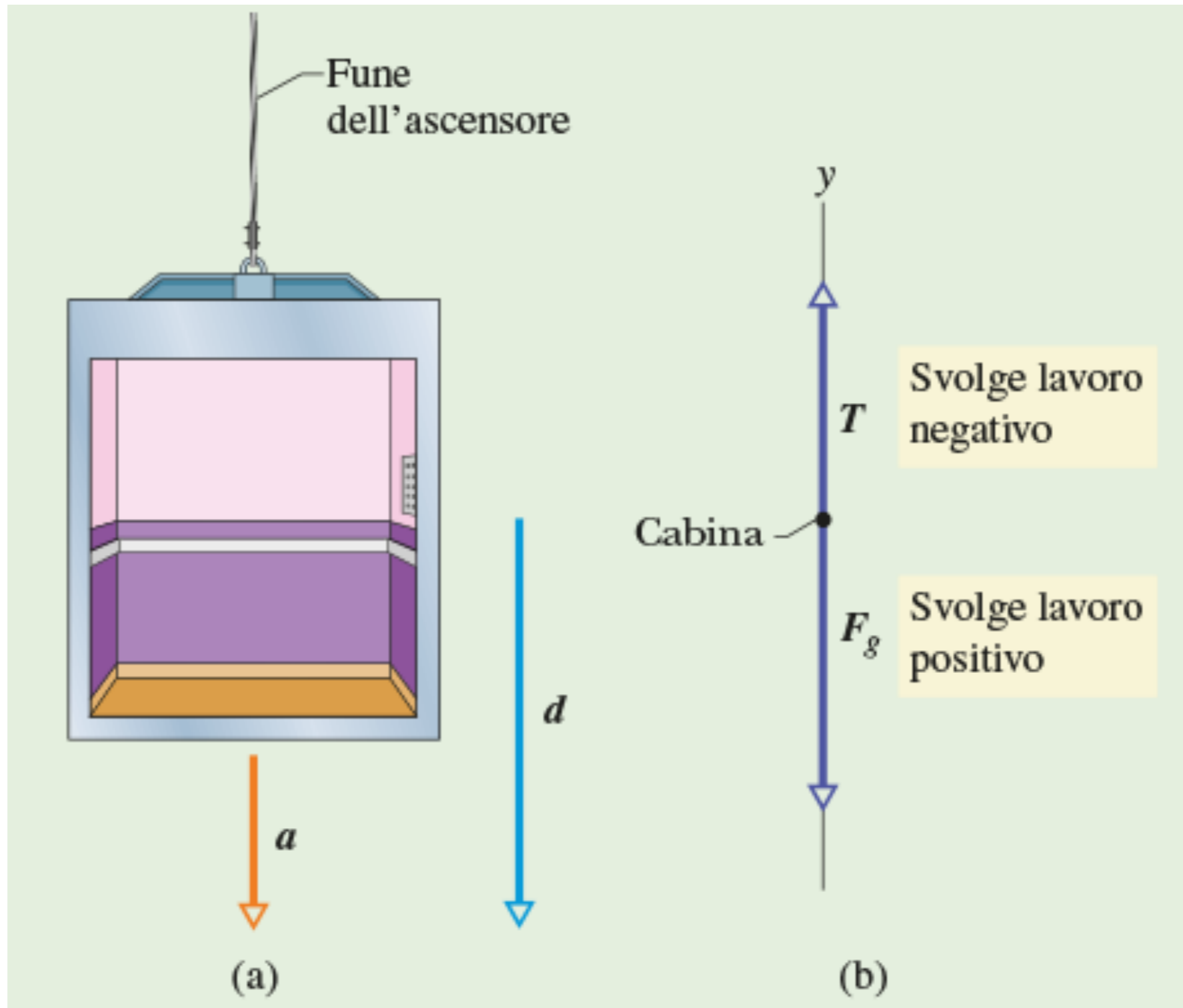


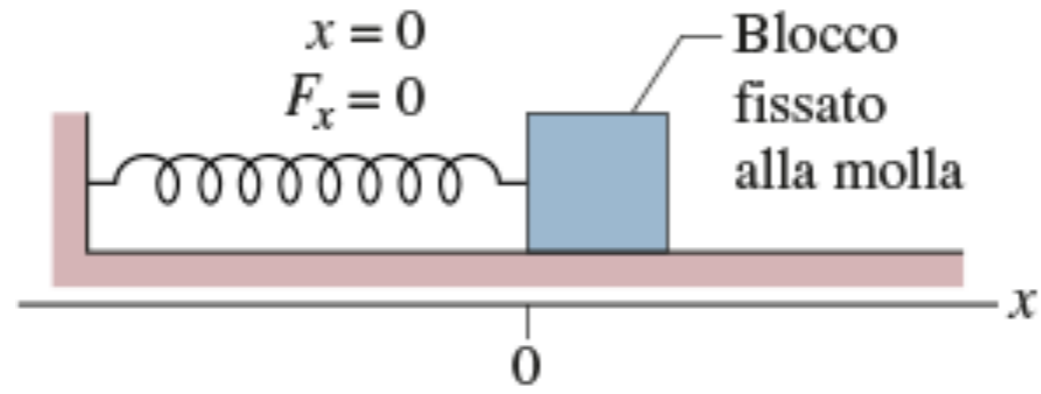




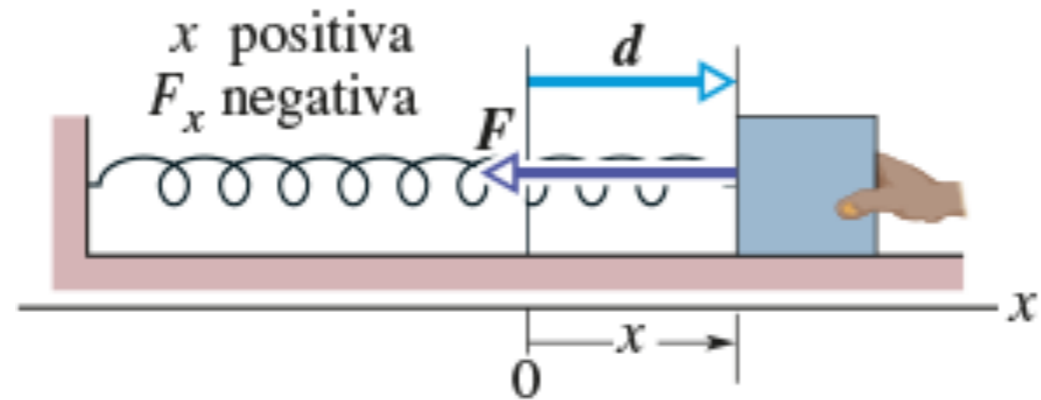




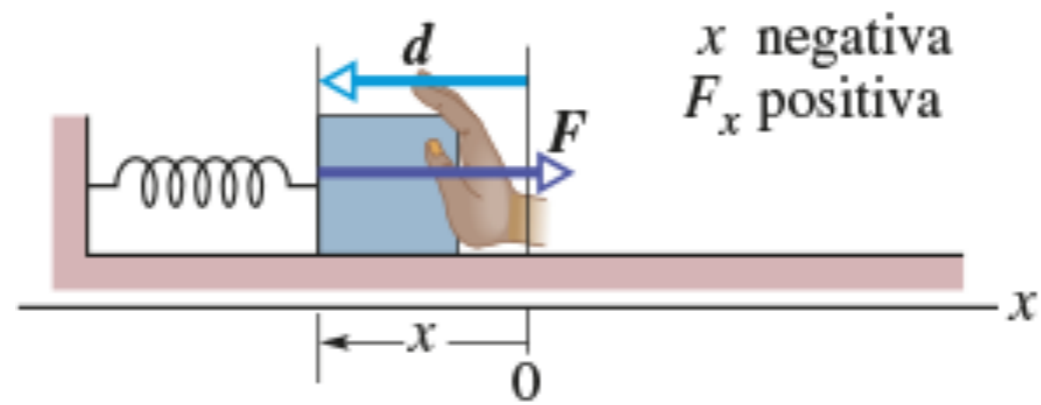




(a)



(b)

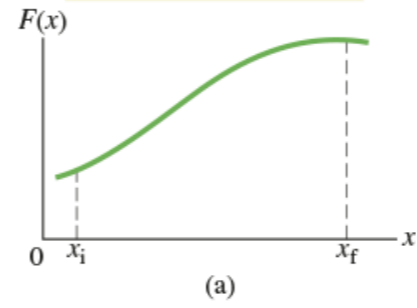


(c)

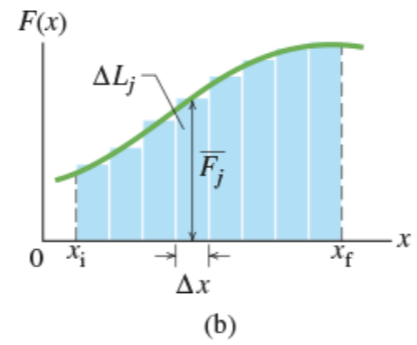
La forza elastica compie lavoro negativo  
riducendo velocità ed energia cinetica del blocco



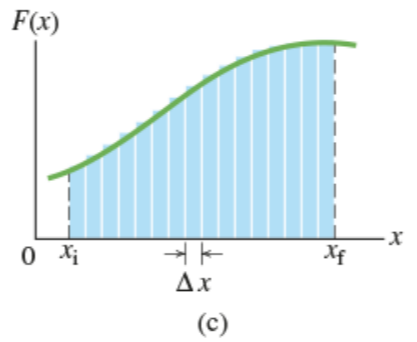
Il lavoro è dato dall'area sottesa dalla curva



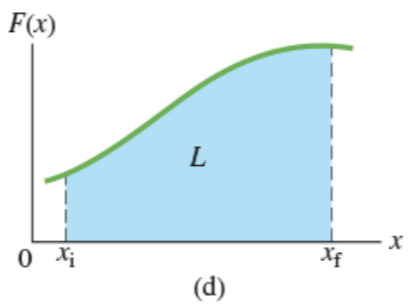
Possiamo approssimare l'area totale alla somma delle aree di questi rettangoli

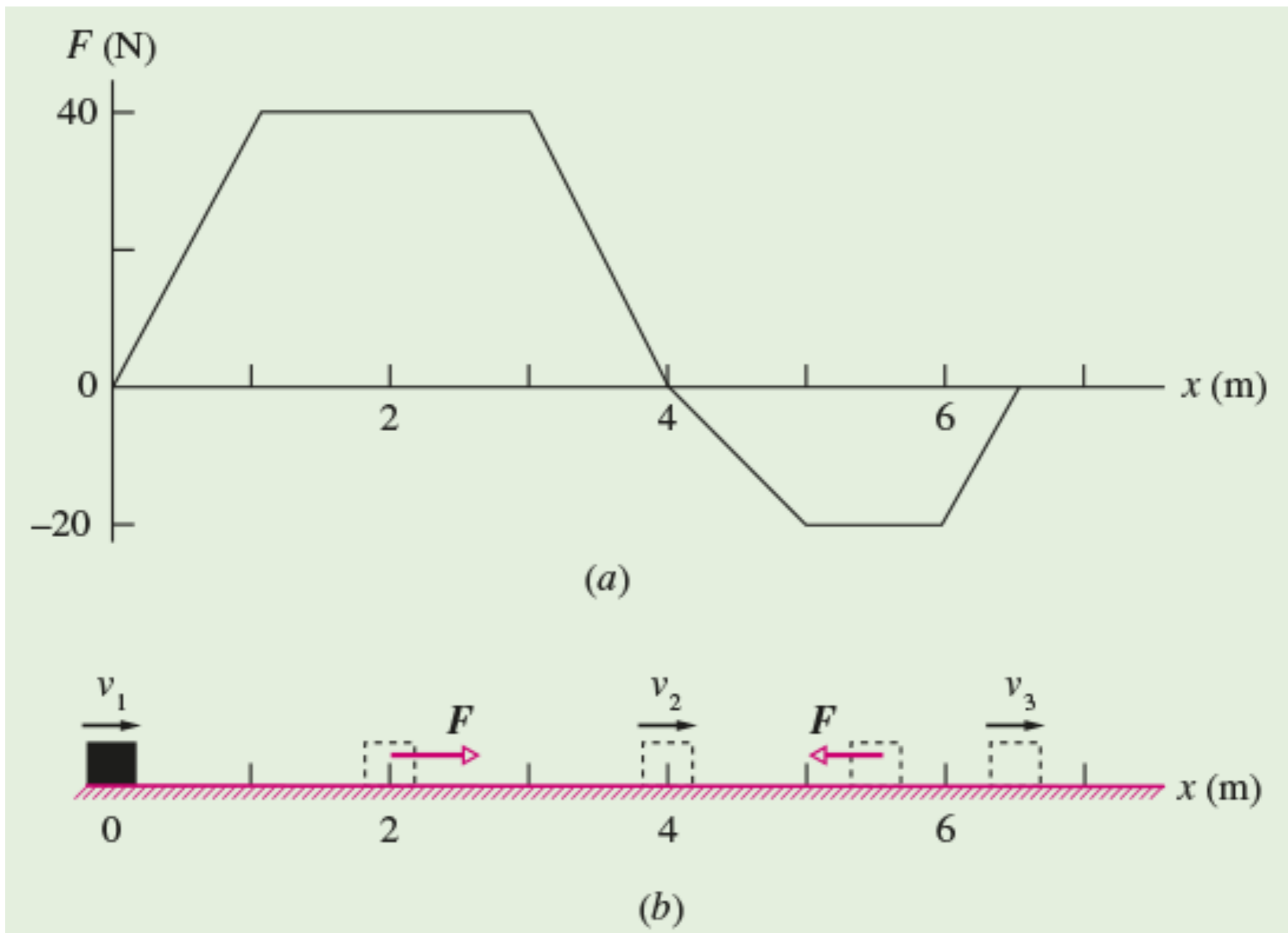


Miglioriamo l'approssimazione con rettangoli più numerosi e più stretti



Ottimale è far tendere a zero la larghezza dei rettangoli

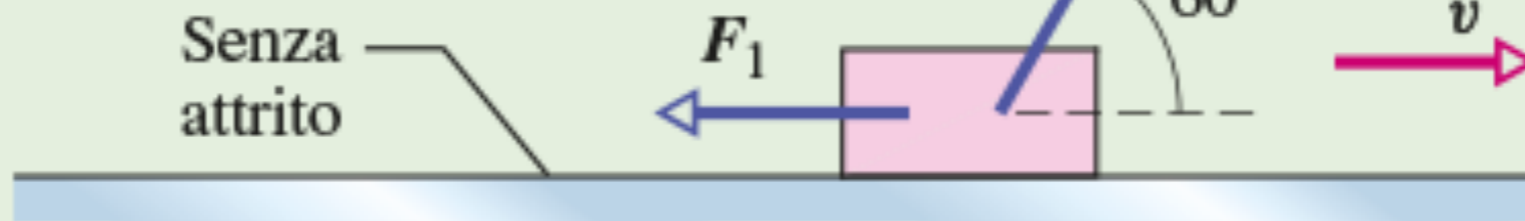




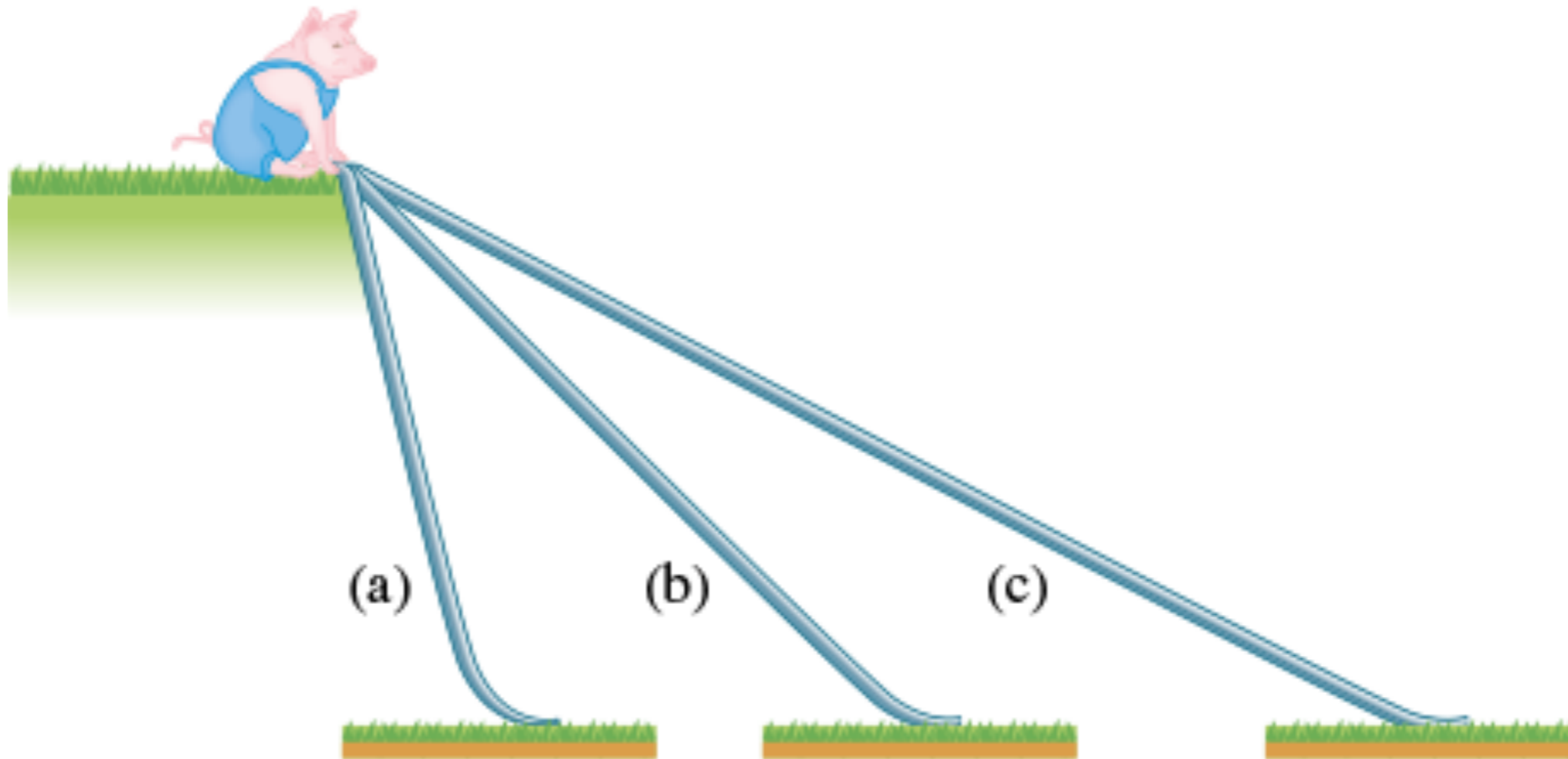


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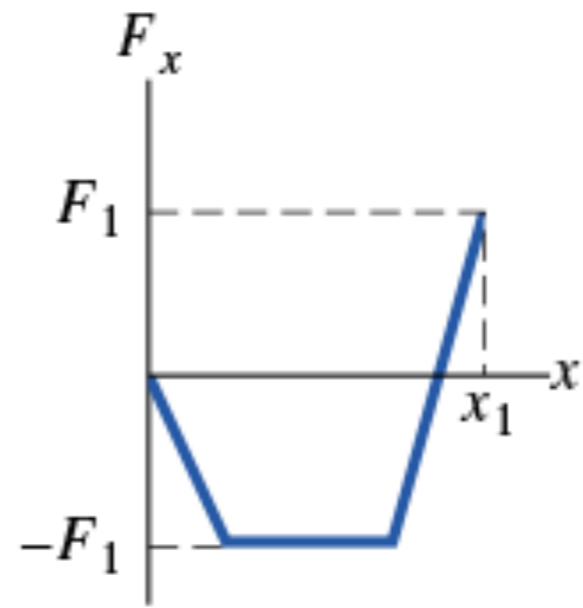
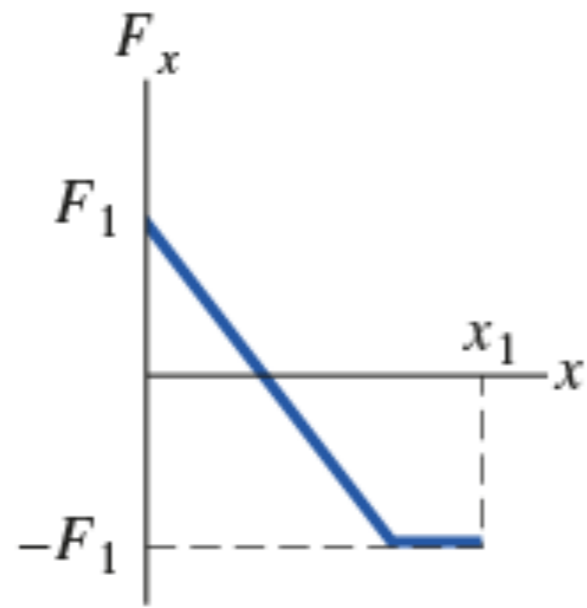
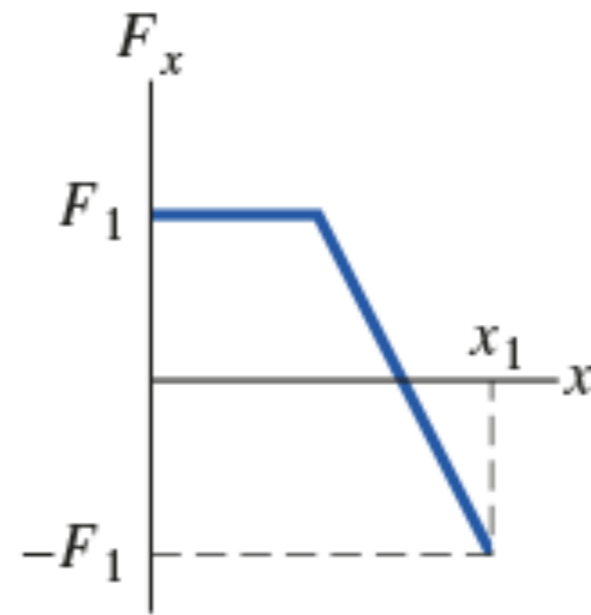
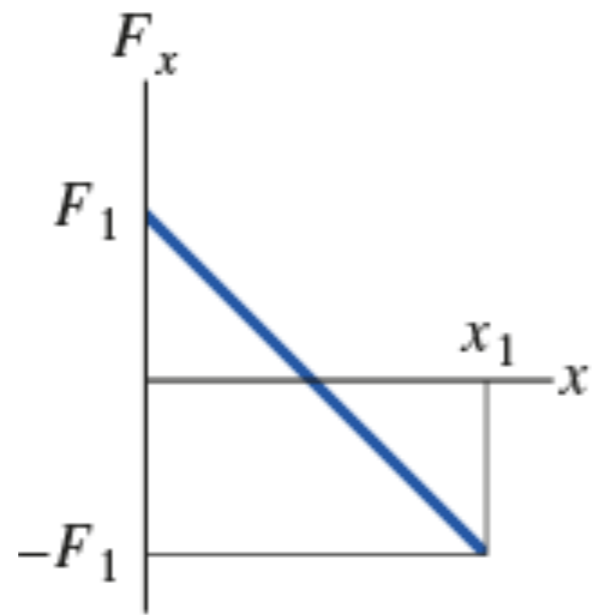
Potenza negativa.  
Questa forza  
sottrae energia



Potenza positiva.  
Questa forza  
fornisce energia

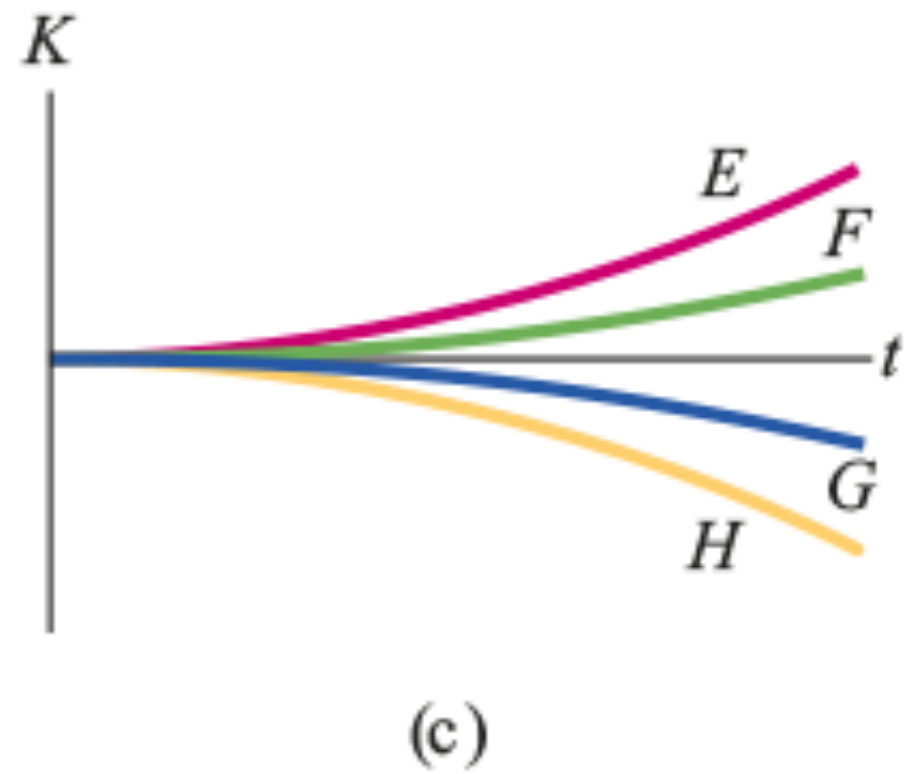
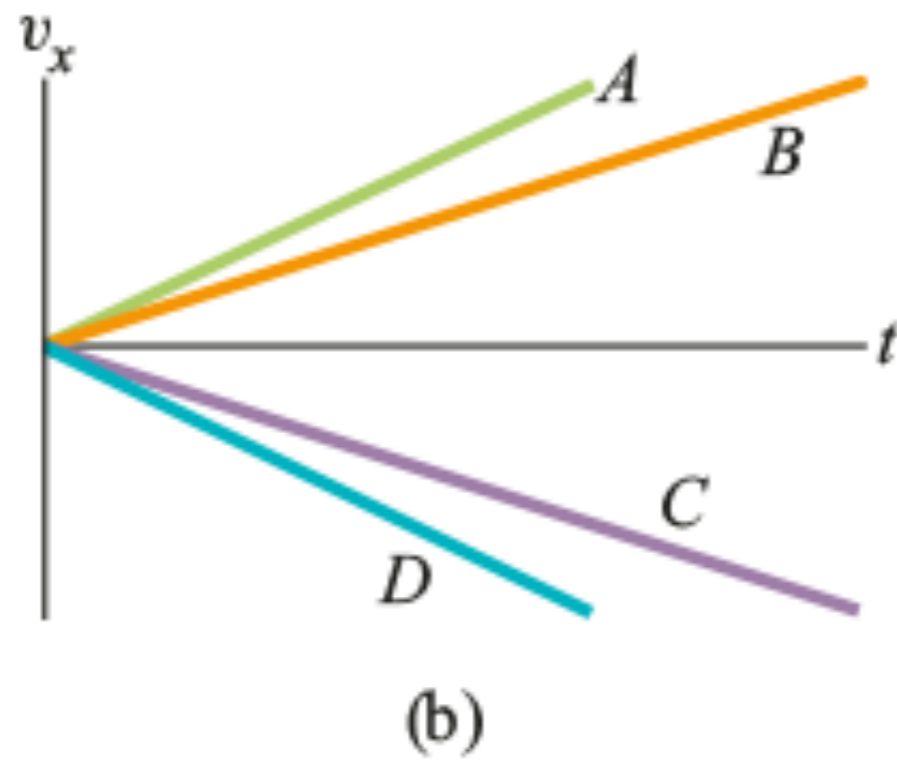
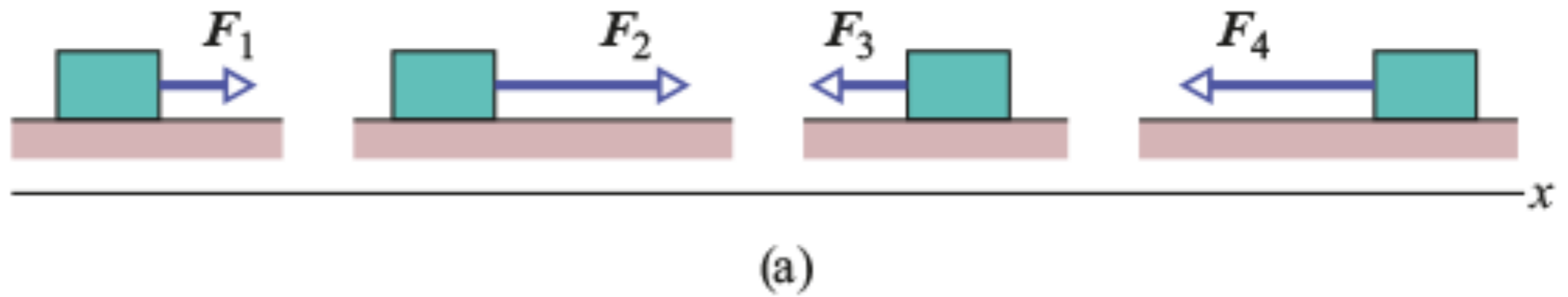


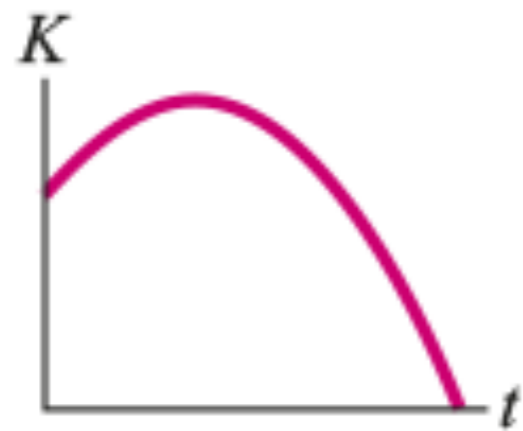




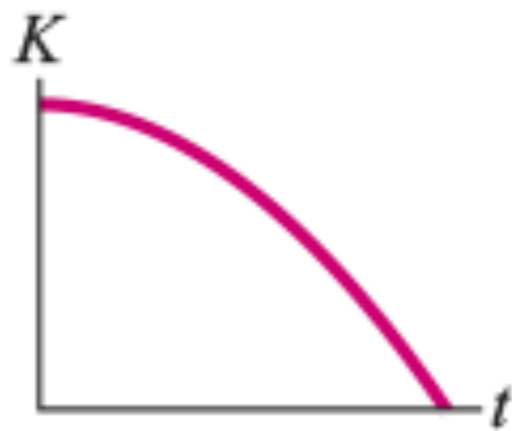
(c)

(d)

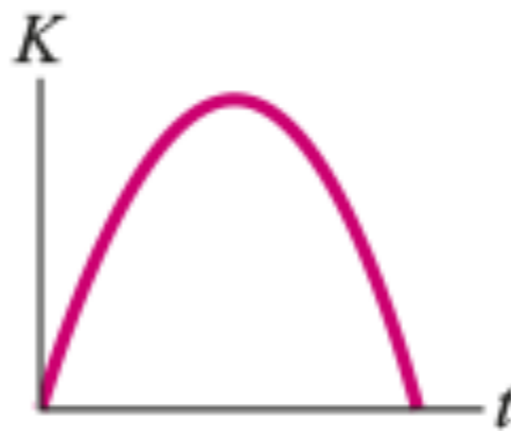




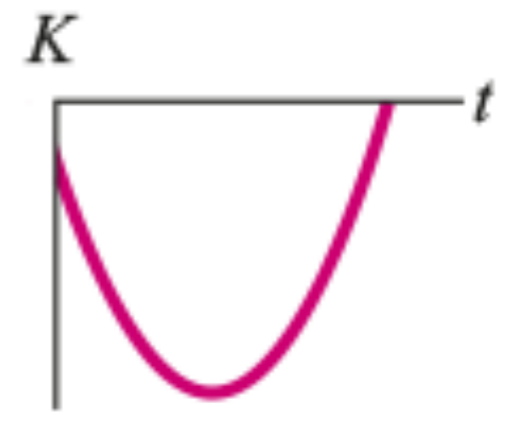
(a)



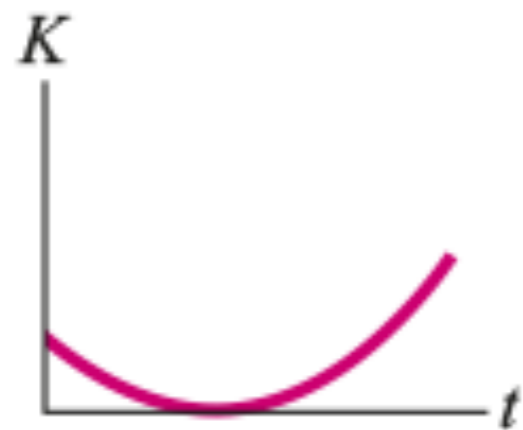
(b)



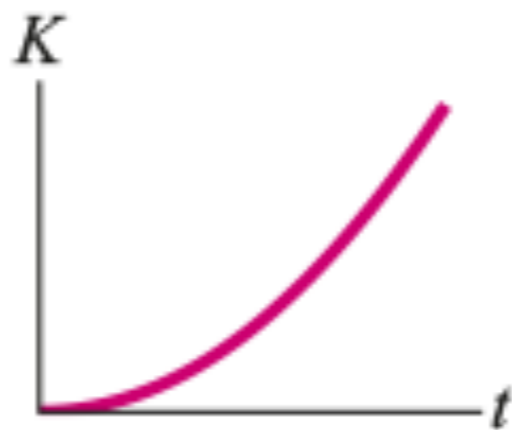
(c)



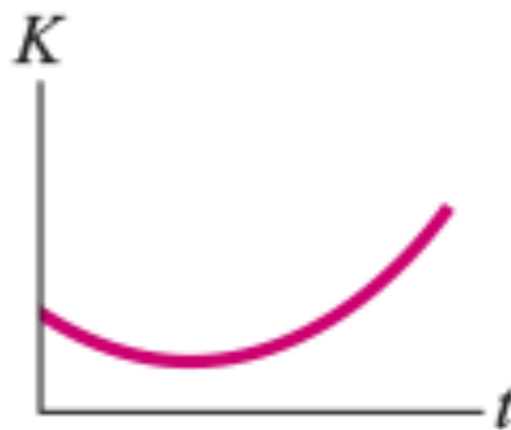
(d)



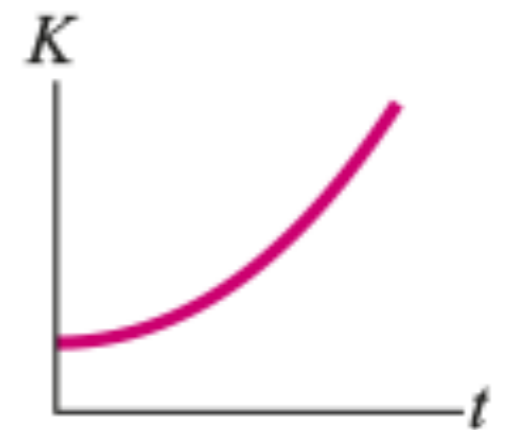
(e)



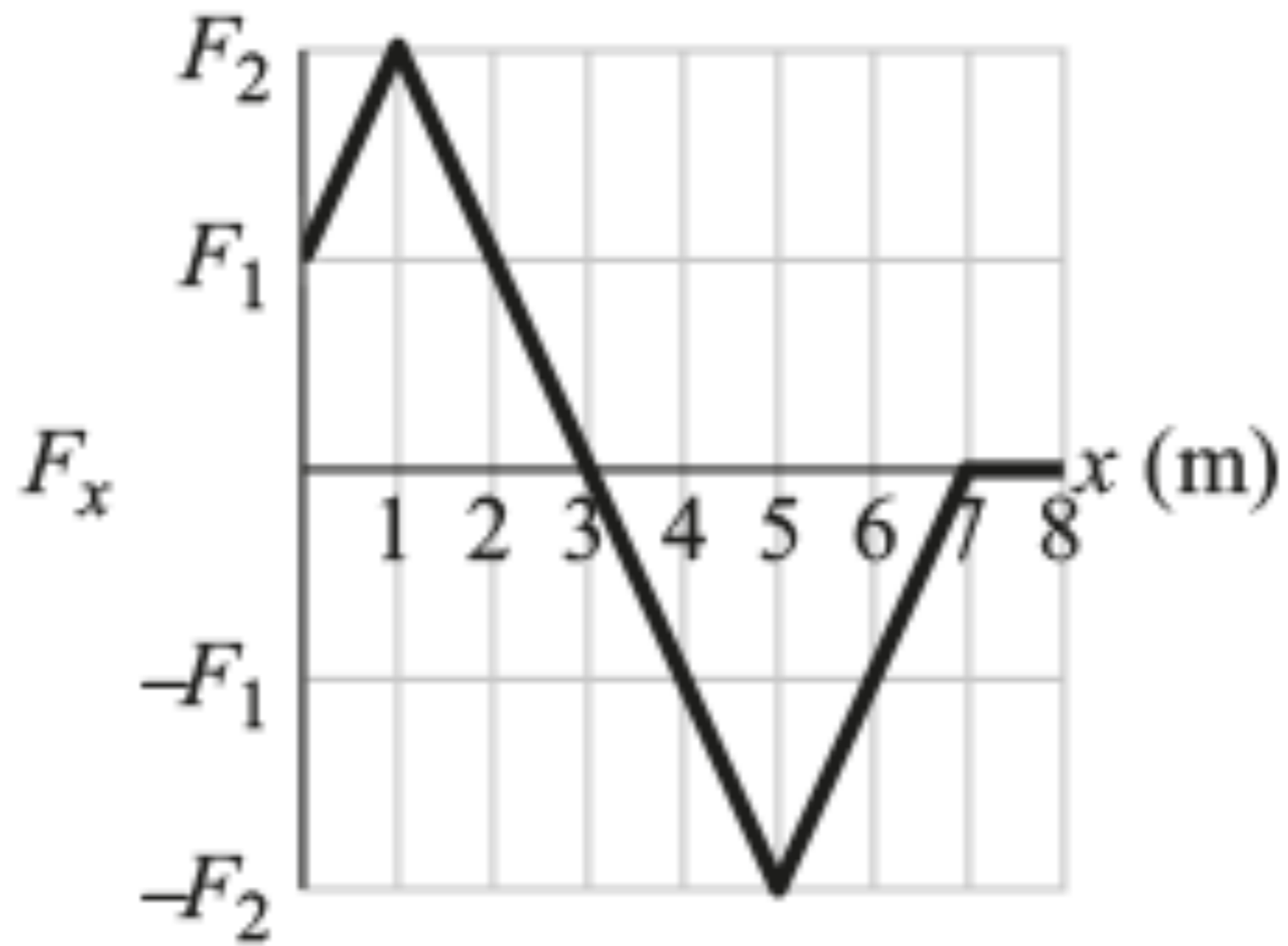
(f)



(g)



(h)





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