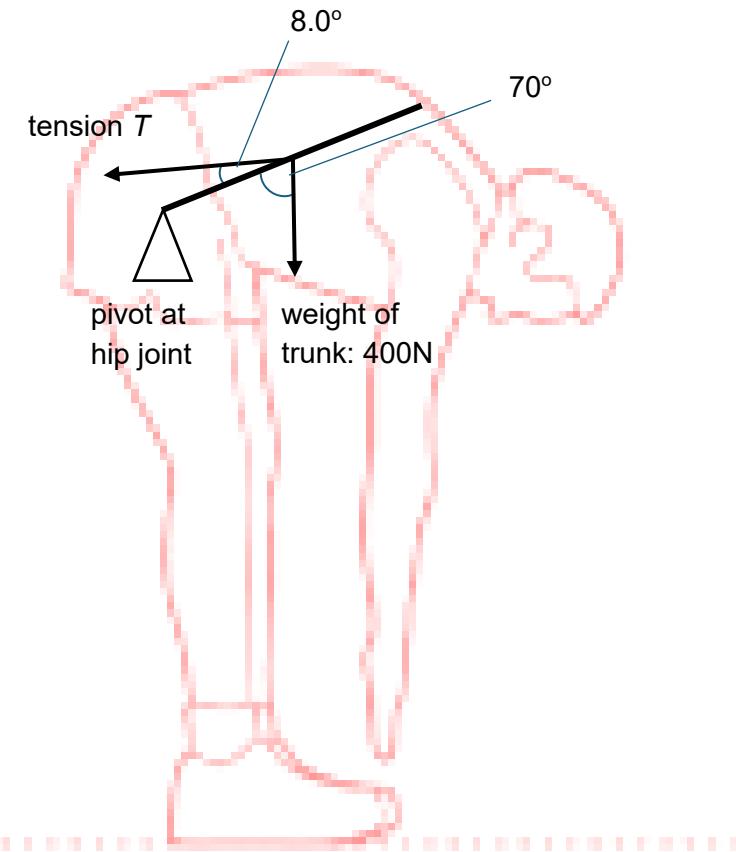


- 5 A simplified diagram below represents the trunk of a person bent forward, with the spine at an angle of  $70^\circ$  to the vertical. The back muscle exerts a tension  $T$  and makes an angle of  $8.0^\circ$  to the spine. The weight of the person's trunk which is  $400\text{ N}$ , acts at the point along the spine where the back muscle is attached.



What is the tension  $T$  in the back muscle?

A  $140\text{ N}$

B  $380\text{ N}$

C  $980\text{ N}$

D  $2700\text{ N}$