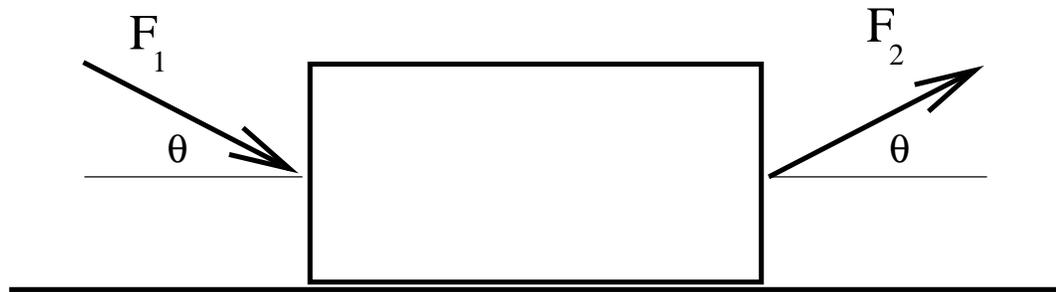


A big wooden crate sits on a rough concrete floor, and it is your job to push or pull it across the room. In either case the force will be applied at the same angle θ , as shown.



Let F_1 and F_2 be the force required to move the crate at constant velocity in the two cases. What can you say about the magnitudes of these two forces?

1. They are the same ($F_1 = F_2$)
2. Pulling is easier ($F_2 < F_1$)
3. Pushing is easier ($F_1 < F_2$)
4. "I'm tired, get someone else."