Simple Friction 2

1. A 40kg box is pushed at 100N and accelerates at 1m/s2. Find the coefficient of kinetic friction of the floor. [μk=0.15]
2. A box is pushed at 120N across a floor where μk=0.25. The box travels at a constant speed. Find the mass of the box. [m=49kg]
3. A 50kg box is pulled across a floor where μk=0.31 and accelerates at 2m/s2. Find the force applied to the box. [Fapp= 251.9N]
4. A box mass 30kg is pushed at 150N across the floor and accelerates at 1.75m/s2. Find the coefficient of kinetic friction of the floor. [μk=0.33]
5. A 60kg mass is pulled at 100N across a floor where μs=0.28 and μk­=0.14. Does the box move? With what acceleration? [no, a=0m/s2]
6. A 28kg mass is pulled at 160N across a floor where μs=0.35 and μk=0.28. Does it move? With what acceleration? [yes, a=2.97m/s2]
7. A 20kg mass is pushed across a surfaces where μs=0.41 and μk=0.29 at 150N. Does it move? With what acceleration? [yes, a=4.66m/s2]