At the end of this worksheet you should be able to

- have more practice at working equilibrium problems.
- work more complicated examples of equilibrium problems.

1. A 5 m long diving board is supported by two connections to the ground. One at the end an another at a point 1.2 m from that end. The board has a mass of 25 kg and a diver with a mass of 70 kg is at the end. What are the forces exerted by the two supports?

2. A painter is standing on a ladder that is 8 m long. The painter has a mass of 75 kg and the ladder has a mass of 10 kg. The painter is standing 3 meters along the ladder. The wall is friction-less, but the floor is friction-full. What force of friction must there be to keep the ladder stable?

3. How high can this person climb the ladder if the coefficient of static friction is 0.3?

4. If a uniform ladder has a mass of 10 kg, a length of 3 m, and its base is 1.5 m from the wall, what is the minimum coefficient of friction to keep the ladder up?