

NAME:

SECTION:

1. A 20kg box rests on a table. **a)** What is the weight of the box and the normal force acting on it? **b)** A 10kg box is placed on top of the 20kg box. Draw a free body diagram of the forces exerted on each box, and calculate their values. *Hint:* The table exerts a normal force on the 20kg box, and the 20kg box exerts a normal force on the 10kg box.

2. The two forces \mathbf{F}_1 and \mathbf{F}_2 shown below act on a 10kg object in addition to gravity (not shown, taken along the -y direction). If $|\mathbf{F}_1| = 15N$ and $|\mathbf{F}_2| = 20N$, find the net force on the object and its acceleration along each direction for (a) and (b).

