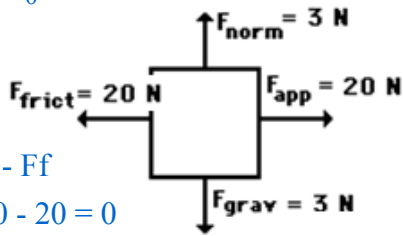


$$F_{y \text{ net}} = F_N + F_F$$

$$F_{y \text{ net}} = 3 - 3 = 0$$

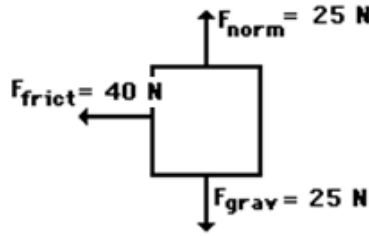
Situation A



$$F_{x \text{ net}} = F - F_f$$

$$F_{x \text{ net}} = 20 - 20 = 0$$

Situation B



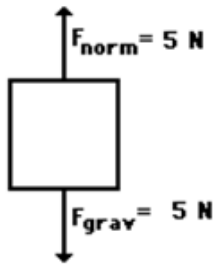
$$F_{y \text{ net}} = F_n - F_g$$

$$F_{y \text{ net}} = 25 - 25 = 0$$

$$F_{x \text{ net}} = 0 - F_f$$

$$F_{x \text{ net}} = -40 \text{ N}$$

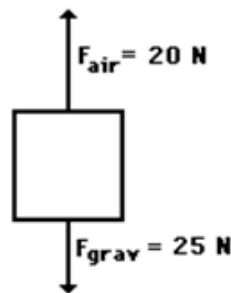
Situation C



$$F_{\text{net}} = F_n - F_g$$

$$F_{\text{net}} = 5 - 5 = 0$$

Situation D



$$F_{\text{net}} = F_a - F_g$$

$$F_{\text{net}} = 20 - 25 = -5 \text{ N}$$

2. Which objects are in static equilibrium? ($F_{\text{net}} = 0$)

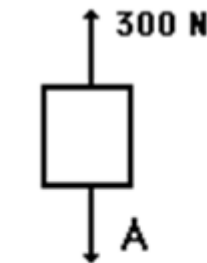
A and C are in Static Equilibrium

3. Free-body diagrams for two situations are shown below. In each case, the net force is known, however, the magnitudes of some of the individual forces are not known. Analyze each situation by writing a f_{net} equation to determine the magnitude of the unknown forces.

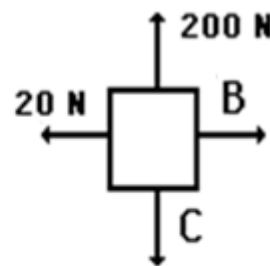
$$F_{\text{net}} = 0$$

$$300 - A = 0$$

$$A = 0 \text{ N}$$



$$F_{\text{net}} = 0 \text{ N}$$



$$F_{y \text{ net}} = 0$$

$$200 - C = 0$$

$$C = 200 \text{ N}$$

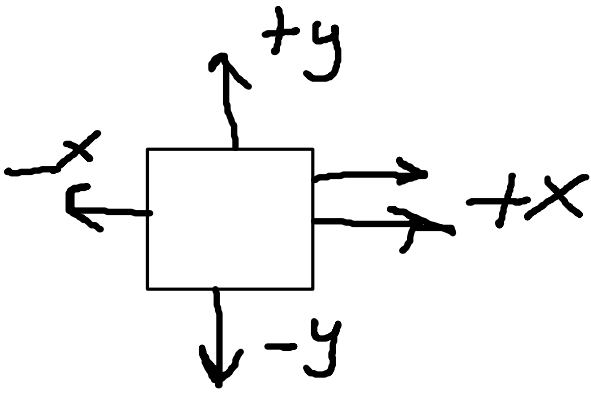
$$F_{x \text{ net}} = +30 \text{ N}$$

$$B - 20 = +30$$

$$B = 50 \text{ N}$$

$$F_{\text{net}} = 30 \text{ N, right } +x$$

$$F_{y \text{ net}} = 0$$



$$\sum F_x$$

Same as Fx net