







<u>Net force = 0</u>

- An object may have many forces acting on it at the same time.
- If all the forces oppose each other exactly then the net force = 0 and the object will either be at rest or move with constant velocity.
- If the net force is zero and the object is at rest, this is called *static equilibrium*.













You are NOT accelerating if

- You are riding your bike up a hill at constant speed (v = a constant)
- You are in a *parked* car (v = 0)
- You are in an elevator that is going up with constant speed. (v = a constant)
- You are in an elevator that is going down with *constant speed*. (v = a constant)

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You are accelerating if

- You are going down a steep hill on rollerblades (your velocity increases)
- In an elevator when it starts to go up (you are at rest then start moving)
- In a car going around a curve at constant speed (the direction of your velocity changes)
- You are on a bus that is slowing down (*your velocity decreases*)
- you are in an elevator and the cable breaks (you will accelerate downward (good luck)

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