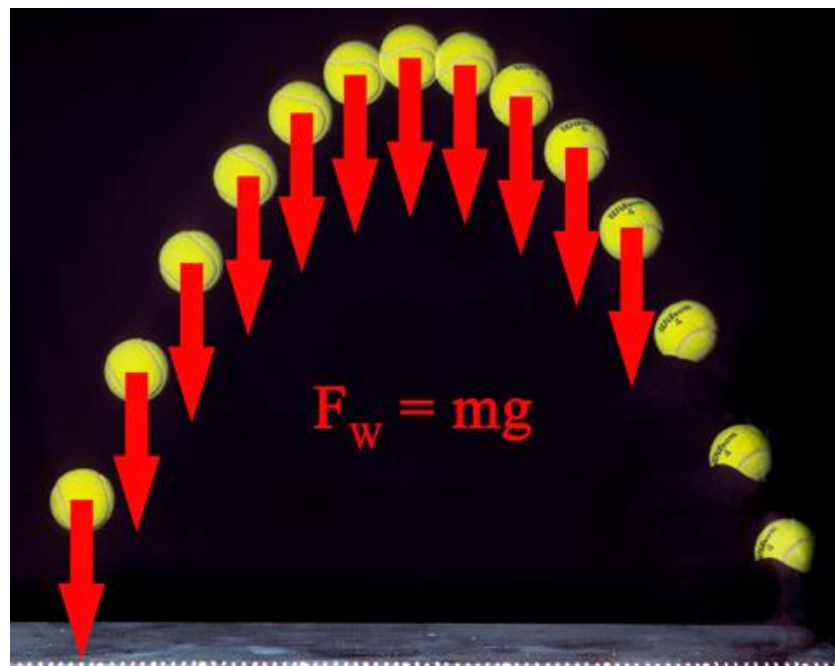


### Answer on Question #40930, Physics, Mechanics | Kinematics | Dynamics

A ball with a weight of 1.5N is thrown at an angle of  $30^\circ$  above the horizontal with an initial speed of 12m/s. At its highest point, the net force on the ball is:

- A. 9.8N,  $30^\circ$  below horizontal
- B. zero
- C. 9.8N, up
- D. 9.8N, down
- E. 1.5N, down

**Solution:**



Neglecting air resistance, the only force on a ball is the force of gravity (weight). The weight of the ball doesn't change in this example, so the force diagram is the same for every image. One of the most common mistakes students make is to think that some sideways force must be required. No! An object in motion tends to stay in motion according to Newton's first law.

The weight is

$$W = 1.5 \text{ N}$$

**Answer.** E. 1.5N, down