

**1-10:** Q3.12, Q3.16, 3.3, 3.8, 3.13, 3.14 (After solving this problem, I suggest you check this video on jumping), 3.29, 3.54, 3.72, 3.79 of your textbook (university physics, 15th edition, global version).

**11-** A motor-driven ship is moving in a lake and we have taken a snapshot of its motion. Considering the flags on the ship and on shore, what do you infer about the direction of relative motions of the ship, air and shore with respect to each other?



Speaking of which, watching <https://www.youtube.com/watch?v=bJMYoj4hHqU> is strongly recommended! It's one of the best videos ever made about frames of reference!

**12-** A ball is released from one meter above the ground. It bounces up and down until it rests on the ground. Suppose that after every bounce, the ball reaches 90 percent of its previous height. a) how many bounces it takes for the ball to settle on the ground? b) How much time does it take for the ball to settle on the ground?

as for the bouncing physics, you may be interested in watching this video:  
<https://www.youtube.com/watch?v=QpuCtzdvix4>.