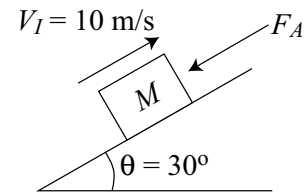
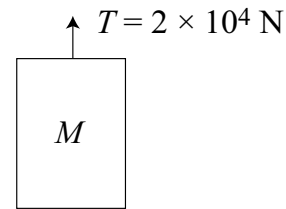


5. A block of mass $M = 5$ kg is initially moving up an incline with speed $V_I = 10$ m/s. A force $F_A = 30$ N is applied to the block, parallel to the incline in the downward direction. If the magnitude of the friction force is 30 N, how much time passes before the block's speed drops to zero? The angle of the incline is 30° .

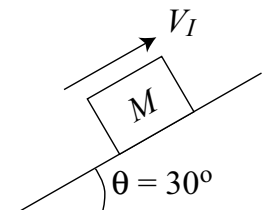


- (1) 0.6 s (2) 0.3 s (3) 0.9 s (4) 1.2 s (5) 1.5 s
6. A block of mass 5 kg is accelerated from rest up a 30° incline by an applied force $F_A = 50$ N for 10 s. The force F_A is then withdrawn, and 15 s later the block is moving down the incline at 5 m/s. What is the total work done on the block by all of the forces acting during the 25 s time interval?

- (1) 62.5 J (2) 0 (3) 123.6 J (4) 32.9 J (5) not enough information
7. The tension in an elevator cable is 2×10^4 N. Beginning from rest, the elevator rises 10 m and reaches a speed of 8 m/s. What is the elevator's mass, in kg?



- (1) 1.5×10^3 (2) 0.2×10^3 (3) 6×10^3 (4) 3.5×10^3 (5) 9.5×10^3
8. A block of mass $M = 10$ kg is initially moving up a 30° incline with a speed of 10 m/s. The coefficient of kinetic friction is 0.7. How far up along the incline does the block travel before coming to rest?



- (1) 4.6 m (2) 3.9 m (3) 3.5 m (4) 3.2 m (5) 2.8 m