

SN: _____, Name: _____

*Chapter 1-8, Serway; ABSOLUTELY NO CHEATING!***Please write the answers on the blank space or on the back of this paper to save resources.**

1. A particle is subject to a force F_x that varies with position as shown in Figure 1.

Find the work done by the force on the particle as it moves (a) from $x = 0$ to $x = 5.00$

m, (b) from $x = 5.00$ m to $x = 10.0$ m, and (c) from $x = 10.0$ m to $x = 15.0$ m. (d)

What is the total work done by the force over the distance $x = 0$ to $x = 15.0$ m?

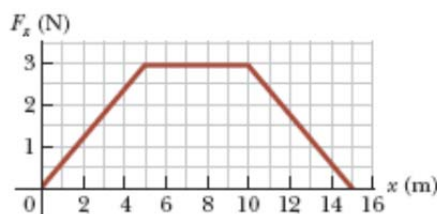


Figure 1.

2. A 40.0-kg box initially at rest is pushed 5.00 m along a rough, horizontal floor with a constant applied horizontal force of 130 N. The coefficient of friction between box and floor is 0.300. Find (a) the work done by the applied force, (b) the change in kinetic energy of the box, and (c) the final speed of the box.