19. A wagon is being pulled across a horizontal path. Friction is negligible. The pulling force points in the same direction as the wagon's displacement, which is along the +x axis. As a result, the kinetic energy of the wagon increases by 47.5 percent. By what percentage would the sled's kinetic energy have increased if this force had pointed 72.4-degrees above the +x axis?

21. A 4.08×10^5 kg Space station is in a circular earth orbit that has a radius of 4.10×10^5 m. A net external force must act on the Space station to make it change to a circular orbit that has a radius of 8.50×10^4 m. What work must be the net external force do?

52. You are practicing volleyball when you throw a 0.28 kg ball at 20.0 m/s towards your friend. IN hitting the ball, your friend does Wnc = 70.0 J of work on the ball. Ignoring air resistance, determine the speed after the ball leaves your friend's outstretched arms 5.0m above the point of impact.