Keystone: Chapter 3

At time t=0, a spacecraft of mass 2000 kg is located at position $\langle 2\times10^5, 7\times10^5, -3\times10^5 \rangle$ m, and an asteroid of mass 5×10^{15} kg is located at position $\langle 7\times10^5, -9\times10^5, 5\times10^5 \rangle$ m. There are no other objects nearby.

a) Calculate the force acting on the spacecraft.

b) What is the change in momentum of the spacecraft between time t=0 s and t=8 s?