

Name _____

1. A person exerts 12.0 N on a 0.145 kg baseball for 0.480 s. What is the change in velocity of the baseball?

2. A 0.144 Kg baseball going 41.0 m/s, strikes a bat, and heads straight **back** to the outfield at 53.0 m/s. If the bat is in contact with the ball for 0.0260 s, what is the force it exerts on the ball?

3. A rocket engine develops 15.6 N of force with an exhaust velocity of 780. m/s. What is the fuel burn rate in kg/s?

4. A rocket engine burns fuel at a rate of 53.5 grams per second with an exhaust velocity of 882 m/s. What is its thrust?

5. A 40.0 kg rocket, 32.0 kg of which is fuel, burns 1.80 kg of fuel per second with an exhaust velocity of 860. m/s. What are its initial and final acceleration as it takes off from earth?