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Lab Physics-End of Chapter 4 Questions (pages 37-53)

**Review Questions (page 51)**

2. The sum of all forces

3. 30 N

4. 20 N

5. Acceleration doubled

6. Acceleration halved

9. F=MxA = 20,000kg x 1 m/s2=20,000 N

10. Support Force=15 N Net Force =0 N

12. Friction is caused by the movement of an object across another surface. Works in the direction opposite motion.

13. 100 N. 0 N. 0 m/s2

18. Feather has more surface area per unit mass and is therefore affected more by air resistance.

**Think and Explain (Page 53):**

2. Each engine accelerates the plane at .5 m/s2 so 3 engines will be 2 m/s2

5. Mass always same (10 kg), weight on earth =100 N (mass x gravity), weight on moon =100/6 or 16.7 N

12. Acceleration = 10 m/s2

13. Ideally, the Net force stays the same. Acceleration stays the same. Gravity is the only thing accelerating the skydiver. In the real world, the net force decreases and the acceleration decreases. This is because the air resistance increases with speed. You are only responsible for the ideal case.