SPH 4C

**GRAVITATIONAL POTENTIAL ENERGY & KINETIC ENERGY**

**ADDITIONAL PRACTICE**

1. A 323 000 kg jumbo jet flies at an altitude of 3400 m. What is the jet’s gravitational potential energy relative to the ground at this height?
2. The same jumbo jet has a speed of 100 m/s. How much kinetic energy does the jet have when flying at this speed?
3. A 0.125 kg arrow has a kinetic energy of 100 J as it flies toward the target. Calculate the speed of the arrow.
4. A sports car, travelling at a speed of 32 m/s has 512 000 J of kinetic energy. What is the mass of the sports car?
5. A bucket of water sits precariously on the top of a door that is slightly ajar. The gravitational potential energy of the bucket (and water) is 220 J. If the bucket is located 2.8 m above the floor, what is the total mass of the bucket and water?
6. A 0.125 kg bird has 2.94 J of gravitational potential energy relative to the ground. What is the bird’s height above the ground?
7. An astronaut holds a 2.40 kg object 1.70 m above the moon’s surface. If the object has 6.53 J of gravitational potential energy relative to the lunar surface, what is the value of *g* on the moon?