1. Drop a rock off a cliff that is 125m high. Assume $g = 10 \frac{m}{s^2}$.

- How fast will the rock be traveling after one second?

- After two seconds?

- After three seconds?

- How long does it take to hit the ground?

- How fast is the rock traveling just before it hits the ground?

2. Throw a baseball straight up at $20 \frac{m}{s}$. Assume $g = 10 \frac{m}{s^2}$.

- What is the acceleration at the top of its flight?

- How long does it take to reach the top of its flight?

- How high does it get?

- What is the total flight time?
3. A car traveling at $30 \text{ m/s}$ hits the brakes and uniformly decelerates to a complete stop. If it took $180 \text{ m}$ to come to a stop, what acceleration did it undergo during braking?

4. A cart is traveling at $2 \text{ m/s}$. The cart is then accelerated at a rate of $2 \frac{\text{m}}{\text{s}^2}$ along its direction of motion for 7 seconds.
   
   • How fast is the cart traveling after the 7 seconds?

   • How far has it gone since it started accelerating?