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## Kinematics #4

$v = \frac{d}{t}$	$a = \frac{\Delta v}{t}$	$v_f = v_i + at$ <i>"Old Faithful"</i>	$d = v_i t + \frac{1}{2}at^2$ <i>"The Big Chalupa"</i>	$v_f^2 = v_i^2 + 2ad$ <i>"Ain't Got no Time"</i>
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1. You drop a rock off the side of a cliff. How much time does it take to fall **265 cm**?
2. A bicycle is going forward at 18 m/s. The cyclist slams on the brakes, and it comes to a stop in 3 seconds. What is the acceleration of the bicycle?
3. On earth, the acceleration of gravity is 9.8 m/s<sup>2</sup>. On the moon, the acceleration of gravity is only 1.63 m/s<sup>2</sup>. If you throw a ball straight up on the moon with an initial velocity of 4 m/s, how high will it go?