- = at implies that the greater the acceleration the shorter the time needed to change speed . The stopping distance s is also shortest when acceleration a is at the highest possible value compatible with road conditions : the equation $s = \frac{1}{2} \left(\frac{1}{2} \right)^{1/2} \left(\frac{1}{2} \right)^{1/2$
- ut + 1 / 2 at2 makes s low when a is high and t is low .