

- 1) A rock is dropped from a 100 foot tower. The height of the rock as a function of time can be modeled by the equation:  $h(t) = -16t^2 + 1000$ . How long does it take for the rock to reach the ground?
- 2) A rock is dropped on the surface of Mars from a height of 100 feet. The height of a falling rock as a function of time since it was dropped on Mars can be modeled by the equation:  $h(t) = -6.5t^2 + 100$ . How long does it take for the rock to hit the surface of Mars?
- 3) A ball is thrown from ground level upward at an initial velocity of 60 ft/sec. What is the ball's maximum altitude? The equation for "projectile motion" is  $h(t) = -16t^2 + 60t$
- 4) A ball is thrown upward from the surface of Mars with an initial velocity of 60 ft/sec. What is the ball's maximum height above the surface before it starts falling back to the surface? The equation for "projectile motion" on Mars is:  $h(t) = -6.5t^2 + 60t$
- 5) A rock is thrown upward from ground level with an initial velocity of 50 feet/sec. When will the rock hit the ground? Projectile motion can be modeled by the equation:  $h(t) = -16t^2 + 50t$
- 6) A rock thrown upward from the surface of Mars with an initial velocity of 50 feet per second. The height of a rock can be modeled by the:  $h(t) = -6.5t^2 + 50t$ . How long does it take the rock to fall back to the surface of Mars?