

PROJECTILE MOTION

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SPORTS *Daredevil Successfully Powers Rocket Over Snake River Canyon*

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TWIN FALLS, Idaho — Professional stuntman Eddie Braun successfully jumped over the Snake River Canyon Friday afternoon in an ode to his boyhood idol, Evel Knievel. Braun soared over the southern Idaho canyon in a custom-built rocket dubbed "Evel Spirit." It launched off a steep ramp on the edge of the canyon rim just before 4 p.m. as hundreds of onlookers watched. The **rocket reached an estimated 400 mph (644 kph) before its parachute deployed**, allowing Braun and the ship to land safely in fields on the other side of the 1,400 ft wide canyon. "I won the Super Bowl. My team got me there. I ran it into the end zone. We scored and won," Braun said in a statement after the jump. Scott Truax, the designer of the rocket, told the Idaho Statesman that after Braun got the OK to launch he didn't hesitate. "He was gone in a cloud of steam and I couldn't see anything until just before he pulled his chutes,"

QUESTIONS: (a) Convert 400 mph to ft./s.? (b) Find initial vertical and horizontal components of velocity in ft./s.?, (c) Find maximum vertical height (Y) the bike reached?, (d) Find time to reach maximum height?, (e) Find the distance moved horizontally (X) when maximum height was reached and parachute was deployed?

HINTS: 60 mph = 88 ft./s. , $V^2 = V_0^2 + 2 a X$, $X = V_{AVE} t$, $V = V_0 + at$, $X = V_0 t + \frac{1}{2} a t^2$

ANSWERS: (a) 586.67 ft./s., (b) $V_H = V_{0V} = 414.77$ ft./s., (c) $Y = 2,688.08$ ft. , (d) $t = 12.96$ s., (e) $X = 5375.42$ ft.

