

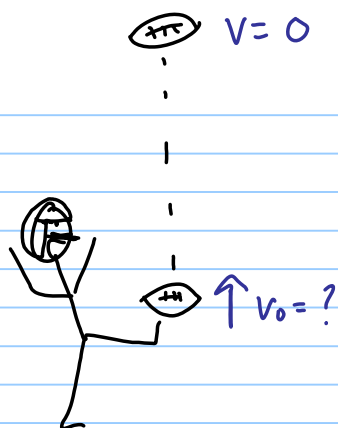
## Quiz 7c

Note Title

27/09/2012

A punter kicks a ball straight upwards. It has a total hang time (time in air) of 5.42 s.

- a. How fast was the ball traveling immediately after the punter kicked it?
- b. How high did the ball go?



a) @  $t_{\frac{1}{2}}$

$$V = 0$$

$$V_0 = ?$$

$$a = -9.8$$

d

$$t_{\frac{1}{2}} = 5.42\text{s} \div 2 = 2.71\text{s} \checkmark$$

$$V = V_0 + a t_{\frac{1}{2}} \checkmark$$

$$V_0 = -a t_{\frac{1}{2}} = -(-9.8)(2.71\text{s})$$

$$= 26.558\text{ m/s}$$

$$= \boxed{26.6\text{ m/s}} \checkmark$$

$$b) d = V_0 t + \frac{1}{2} a t^2 \checkmark$$

$$= (26.558)(2.71) + \frac{1}{2}(-9.8)(2.71)^2$$

$$= \boxed{36.0\text{ m}} \checkmark$$