56. The graph shows $y = 25$ m to be the highest point (where the speed momentarily vanishes). The neglect of "air friction" (or whatever passes for that on the distant planet) is certainly reasonable due to the symmetry of the graph.

(a) To find the acceleration due to gravity $g_p$ on that planet, we use Eq. 2-15 (with $+y$ up)

$$y - y_0 = vt + \frac{1}{2}g_p t^2 \implies 25 - 0 = (0)(2.5) + \frac{1}{2}g_p(2.5)^2$$

so that $g_p = 8.0$ m/s$^2$.

(b) That same (max) point on the graph can be used to find the initial velocity.

$$y - y_0 = \frac{1}{2}(v_0 + v)\,t \implies 25 - 0 = \frac{1}{2}(v_0 + 0)\,(2.5)$$

Therefore, $v_0 = 20$ m/s.