

Calculations by Helfenstine...

Calculation of Velocity based on stride.

$$\frac{l}{h} = k \left( \frac{V^2}{gh} \right)$$

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$V$  = velocity in meters/sec.

$l$  = stride length

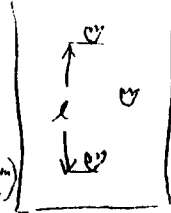
$h$  = hip height

$g$  = gravity = 9.8 m/sec<sup>2</sup>

$k$  = fudge factor = 2.3 (Hastings for 2.52m stride)

2.66 for 4 mph at same stride

3.16 for 3 mph at same stride



Converting to the form

$$(V^2)^{0.3} = V^{0.6} = \frac{l (gh)^{0.3}}{k h}$$

Using  $l = 2.52$  meters,  $h = 1.5$  meters,

