28. In the simplest approach, we set up a ratio for the total increase in *horizontal depth* x (where $\Delta x = 0.05$ m is the increase in horizontal depth per step)

$$x = N_{\text{steps}}\Delta x = \left(\frac{4.57}{0.19}\right)(0.05) = 1.2 \text{ m} .$$

However, we can approach this more carefully by noting that if there are $N = 4.57/.19 \approx 24$ rises then under normal circumstances we would expect $N - 1 = 23$ runs (horizontal pieces) in that staircase. This would yield $(23)(0.05) = 1.15$ m, which – to two significant figures – agrees with our first result.