

Answer on question #66174, Physics / Other

Question Fred jumps from a cliff to a deep pool of water. It took him 3.5 seconds to reach the water. Assuming that air resistance is negligible and the acceleration due to gravity is 9.8m/s/s find:

a) Fred's speed upon impact with the water

b) The height of the cliff

Upon impact with the water Fred it brought to rest in a time of 1.2 seconds. Determine the average acceleration of Fred during this time.

Solution Speed is

$$v = gt = 9.8 \cdot 3.5 = 34.3 \text{ m/s}$$

Height of cliff is

$$h = gt^2/2$$

$$h = 9.8 * 3.5^2/2 \approx 60 \text{ m}$$