Answer to Question#51068 – Physics - Mechanics - Kinematics - Dynamics

To find time, we will use the falling of the coconut using the equation $\nabla S = \frac{1}{2}at^2 = -20m$; $a = \pm 10\ or\ \pm 9.8$, depending on the acceleration of gravity. In this case, we will use -10 for simplicity. Now let's plug in.

$-20 = \frac{1}{2}(-10)t^2$;
$t = 2$;

Therefore, it takes two seconds for the cocunut to hit the ground (and two seconds for the zookeeper to run, because these actions are happening simultaneously).

Now
$S = V \cdot t$;
$S = (1.5)2$;
$S = 3$;

Therefore, the zookeeper had run a total of 3m.

Answer is: 3 m.