A body leaving a certain point O moves with an acceleration which is constant.. At the end of the fifth second it's velocity is 1.5m/s. At the end of the sixth second the body stops and starts to move backwards. Find the distance traversed by the body before it comes to rest. What is the velocity with which it returns to O?

Solution:
Let:
$v = 1.5\ {}^{m}/_{s}$
$t(1) = 5\ s$
$t(2) = 6\ s$

$S - ?, v(0) - ?$

$S = \frac{1}{2} a * (t(2))^2, were\ a - acceleration$
$v(0) = a * t(2)$

Fined acceleration:

$$a = \frac{v}{t(1)}$$

$$a = \frac{1.5}{5} = 0.3\ {}^{m}/_{s^2}$$

$$v(0) = 0.3 * 6 = 1.8\ {}^{m}/_{s}$$

$$S = \frac{1}{2} 0.3 * 6^2 = 5.4\ m$$

Answer: velocity - 1.8 m/s; distance - 5.4 m.