4. This problem differs from the second one in that it has a non-zero value for the initial velocity. We use the same equation as was used in the second problem with a negative value for the initial velocity because the rock was initially thrown downward.

$$d = v_o\, t + (1 / 2)\, a\, t^2$$

$$d = (-5\text{m/s}) (2\text{ s}) + (1/2) (-9.8 \text{ m/s}^2) (2\text{ s})^2$$

$$d = -10 \text{ m} - 19.6 \text{ m} = -29.6 \text{ m}$$

Note the negative sign indicating that the displacement is downward as might be expected.