

$$(4) \quad 0 = -16t^2 + 96t + 112$$

$$0 = -16(t^2 - 6t + 7)$$

$$a=1 \quad b=6 \quad c=7$$

$$\downarrow$$

$$-16(t-7)(t+1) \rightarrow t-7 = \boxed{7}$$

a. 7 seconds

b.