

(11)

D

(12)

$$\frac{1}{2} \left( 9^{1/2} + 9^1 + 9^{3/2} + 9^2 \right)$$

$$\frac{1}{2} (3 + 9 + 27 + 81)$$

$$\frac{1}{2} (120)$$

60

(c)

$$(a) \int_0^{300} r(t) dt = 270$$

$$(b) 20 + \int_0^{300} r(t) - 0.7 dt = 80$$

$$(c) 300 + \frac{80}{0.7} = 414.2855$$

(d) Graph  $r(t) - 0.7 = 0$  at  $t = 33.013$   
 people  $(0) = 20$   
 people  $(33.013) = 3.803$