



(a)

(b)

$$V = 25 \left(1 - \frac{t}{60}\right)^2$$

(i) initially }  
when  $t = 0$  }

$$V = 25 \left(1 - \frac{0}{60}\right)^2$$

$$V = 25 \text{ litres}$$

when  $V = 0.25$  }

$$0.25 = 25 \left(1 - \frac{t}{60}\right)^2$$

$$15 = 25 (1 - t)^2$$

$$15 = 25 - 25t^2$$

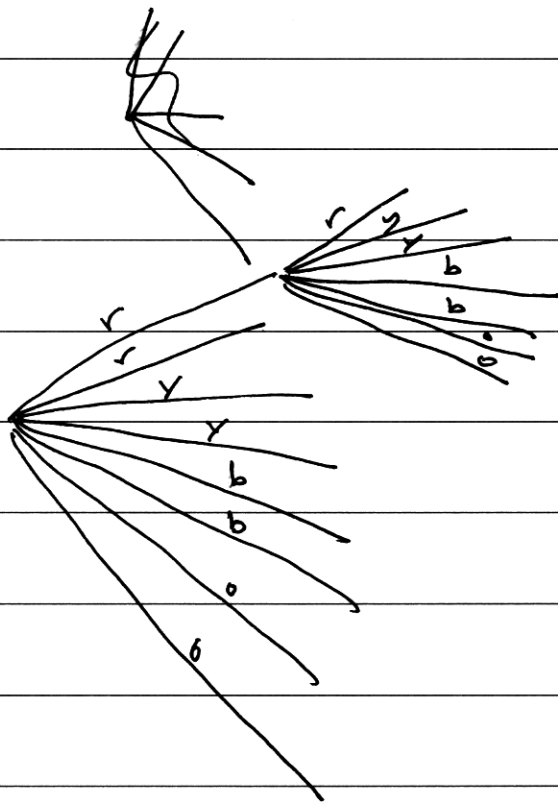
$$\cancel{25t^2 = 10}$$

~~+~~

$$15 = 25 (1 - 1t^2)$$

(c) because there are 8 socks the probability of getting a pair and it is the number of socks over the number of possible outcomes  $\therefore \frac{6}{7}$  socks possible outcomes.

8ps 2r 2y 2b 2o



(ii)  $\frac{3}{6} = \frac{5}{6}$