

Home Work 0

1:	Bag	12	total	
		5	red	+ \$14
		3	green	\$0
		4	yellow	+ \$12

$$100 \left(\frac{5}{12} (14 - 10) + \frac{4}{12} (12 - 10) + \frac{3}{12} (-10) \right) \\ = -\frac{50}{3} \approx -16.6 \text{ mb}$$

$$2: \therefore \frac{1}{9} \text{ success}$$

$$\text{Do } 9 \times 9000 = 81,000$$

$$\underline{\$ 81,000}$$

3: Over confident

4: Porssow

5

90% - flu - F
10% - measles - M

rash - R

$$P(R|M) = 0.8$$

$$P = P(R|F) = 0.08$$

Q: find $P(M|R)$

$$P(M|R) = \frac{P(R|M) \cdot P(M)}{P(R)}$$

$$= \frac{P(R|M) \cdot P(M)}{P(R|M) \cdot P(M) + P(R|F) \cdot P(F)}$$

 $P(R)$ $P(R)$

$$= \frac{0.8 \cdot 0.1}{0.8 \cdot 0.1 + 0.08 \cdot 0.9}$$

$$= \frac{0.08}{0.16} \approx 0.526$$

 $P(R|F)$ $P(F)$

6:

$$P(I) = 1\% = 0.01 = \text{infected}$$

$$P(N) = 99\% = 0.99 = \text{not infected}$$

P = positive

I = infected

N = not

$$P(I|P) = \frac{P(P|I) \cdot P(I)}{P(P)}$$

$$= \frac{0.01 \times 0.7}{0.7 \times 0.01 + 0.1 \times 0.99}$$

$$= \frac{70}{169}$$

$$\Rightarrow E = \frac{70}{169} \times 100,000 \approx 41,420.128$$

$$\text{ans} = 41,420.12$$