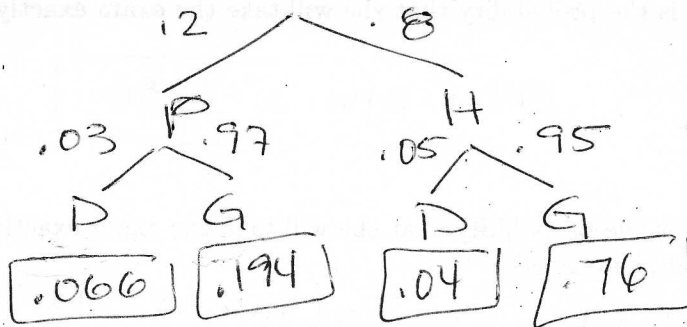


6. 20% of a company's television sets are manufactured at a plant in Portland and 80% at a plant in Houston. Of those made in Portland, 3% are defective, and of those made in Houston 5% are defective.

3 pts

a) Draw a tree diagram representing this situation.



2 pts

b) What percentage of their total production is defective?

$$.066 + .04 = .106 \approx 10.6\%$$

or

5 pts

c) If you buy a defective set from the company, what is the probability it was made in Houston?

$$\begin{aligned}
 P(H | D) &= \frac{P(\text{Houston} \& \text{Def.})}{P(\text{Defective})} \\
 &= \frac{.04}{.066 + .04} \\
 &= .378
 \end{aligned}$$