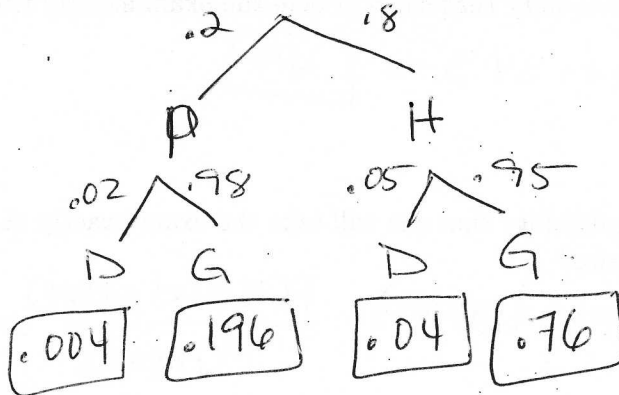


6. 20% of a company's television sets are manufactured at a plant in Portland and 80% at a plant in Houston. Of those made in Portland, 2% are defective, and of those made in Houston 5% are defective.

8 pts

a) Draw a tree diagram representing this situation.



2 pts

b) What percentage of their total production is defective?

$$.004 + .04 = .044 \approx 4.4\%$$

or

5 pts

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

$$P(H | Def) = \frac{P(Hous. \& Def.)}{P(Def.)} = \frac{.04}{.004 + .04}$$

$$= \frac{.04}{.044}$$

$$\approx .91$$