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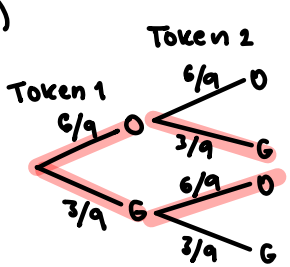
Problem Solving Set B

Bronze

a)

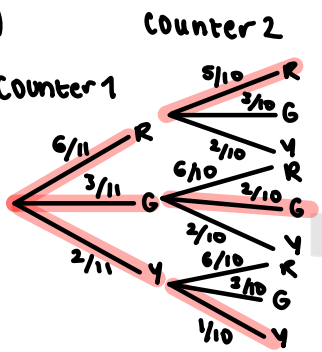


b) $P(O) \times P(G) + P(G) \times P(O)$

$= \left(\frac{6}{9} \times \frac{3}{9}\right) + \left(\frac{3}{9} \times \frac{6}{9}\right) = \frac{4}{9}$

Silver

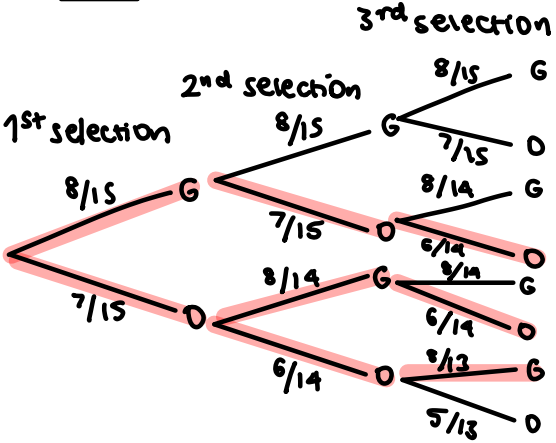
a)



b) $P(R) \times P(R) + P(G) \times P(G) + P(Y) \times P(Y)$

$\left(\frac{6}{11} \times \frac{5}{10}\right) + \left(\frac{3}{11} \times \frac{2}{10}\right) + \left(\frac{2}{11} \times \frac{1}{10}\right) = \frac{19}{55}$

Gold



$P(GOO) = \frac{8}{15} \times \frac{7}{15} \times \frac{6}{14} = \frac{8}{75}$

$P(OGO) = \frac{7}{15} \times \frac{8}{14} \times \frac{6}{14} = \frac{4}{35}$

$P(OOG) = \frac{7}{15} \times \frac{6}{14} \times \frac{8}{13} = \frac{8}{65}$

$P(GOO) + P(OGO) + P(OOG)$

$= \frac{8}{75} + \frac{4}{35} + \frac{8}{65} = \frac{2348}{6825}$