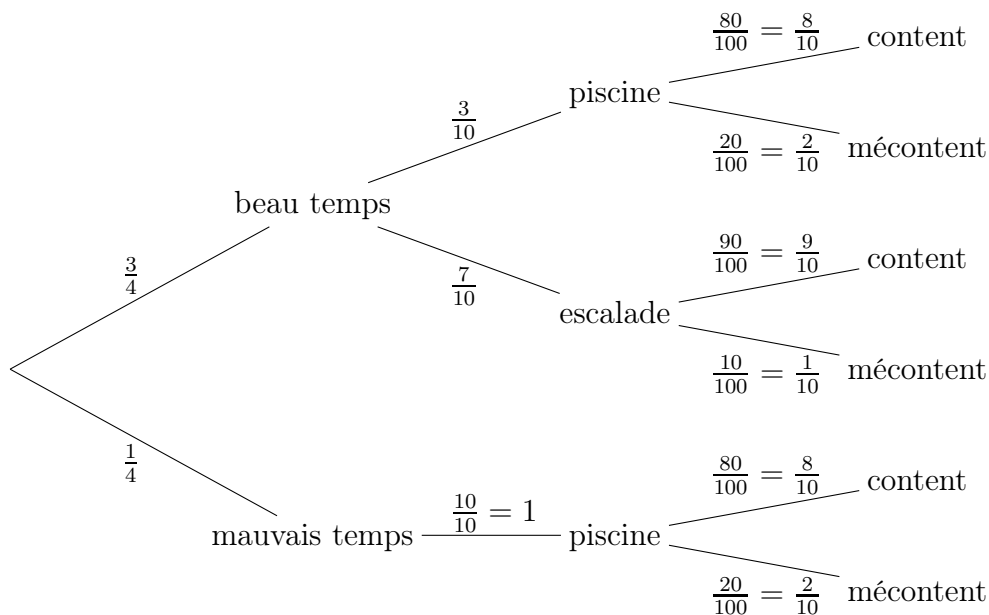


Chamblandes 2008 — Problème 5



a) $\frac{3}{4} \cdot \frac{3}{10} \cdot \frac{8}{10} + \frac{3}{4} \cdot \frac{7}{10} \cdot \frac{9}{10} + \frac{1}{4} \cdot \frac{10}{10} \cdot \frac{8}{10} = \frac{72}{400} + \frac{189}{400} + \frac{80}{400} = \frac{341}{400} = 85,25 \%$

b) $\frac{3}{4} \cdot \frac{3}{10} \cdot \frac{8}{10} + \frac{1}{4} \cdot \frac{10}{10} \cdot \frac{8}{10} = \frac{72}{400} + \frac{80}{400} = \frac{152}{400} = \frac{19}{50} = 38 \%$

c) $\frac{\frac{152}{400}}{\frac{341}{400}} = \frac{152}{341} \approx 44,57 \%$

d) $\frac{\frac{3}{4} \cdot \frac{3}{10} \cdot \frac{8}{10} + \frac{3}{4} \cdot \frac{7}{10} \cdot \frac{9}{10}}{\frac{341}{400}} = \frac{\frac{72}{400} + \frac{189}{400}}{\frac{341}{400}} = \frac{\frac{261}{400}}{\frac{341}{400}} = \frac{261}{341} \approx 76,54 \%$

e) $\binom{15}{15} \left(\frac{341}{400}\right)^{15} \left(\frac{341}{400}\right)^{15-15} = \left(\frac{341}{400}\right)^{15} \approx 9,13 \%$