1) $\dfrac{\binom{15}{8}}{\binom{22}{14}} = 0.10$

2) $\left(\frac{1}{5}\right)\left(\frac{1}{4}\right)\left(\frac{7}{10}\right)\left(\frac{6}{13}\right)\left(\frac{1}{5}\right) = 0.0032$

$\dfrac{4200}{10^5} = 0.092$

3) No, because they are independent

$P(B) \mathrel{!=} P(B)$

4) $P(\text{no superstars}) = 0.5 \qquad \binom{5}{4}(0.5)^5 = 0.36015$

$P(\text{superstars}) = 0.7 \qquad \binom{5}{4}(0.7)^4(0.3) = 0.15625$

$P(5 \text{ games}) = 0.75$

$\text{total} = \left(\frac{3}{4}\right)(0.36015) + \left(\frac{1}{4}\right)(0.15625)$

$\qquad = 0.309175$

$P(\text{win } 4/5 \text{ or superstar}) = \dfrac{0.36015}{0.309175}\left(\frac{3}{4}\right) = 0.8737$