

Osteoporose

12. $P(x = 30 | n = 100, p = 1/4) = \text{binompdf}(100, 0.25, 30) = 0,0458$

13. $P = P(x = 2, y = 0) + P(x = 1, y = 1) + P(x = 0, y = 2) =$

$$= \binom{5}{2} \cdot \left(\frac{1}{4}\right)^2 \cdot \left(\frac{3}{4}\right)^2 \cdot \left(\frac{11}{12}\right)^5 + \binom{5}{1} \cdot \left(\frac{1}{4}\right) \cdot \left(\frac{3}{4}\right)^4 \cdot \binom{5}{1} \cdot \left(\frac{1}{12}\right) \cdot \left(\frac{11}{12}\right)^4 + \binom{3}{4}^5 \cdot \binom{5}{2} \cdot \left(\frac{1}{12}\right)^2 \cdot \left(\frac{11}{12}\right)^3 = 0,2997$$

14. $\frac{\frac{1}{4} \cdot 55,6}{\frac{1}{4} \cdot 55,6 + \frac{1}{12} \cdot 44,4} \cdot 100\% = 79\%$