



analisaremos agora o lançamento de 3 dados [6 faces]

$$A: x^1 + x^2 + x^3 + x^4 + x^5 + x^6 = x (1 + x + x^2 + x^3 + x^4 + x^5)$$

$$B: x^1 + x^2 + x^3 + x^4 + x^5 + x^6 = x (1 + x + x^2 + x^3 + x^4 + x^5)$$

$$C: x^1 + x^2 + x^3 + x^4 + x^5 + x^6 = x (1 + x + x^2 + x^3 + x^4 + x^5)$$

$$\text{usando: } 1 + x + x^2 + x^3 + x^4 + x^5 = (1 - x^6) / (1 - x)$$

função geradora

$$[x (1 + x + x^2 + x^3 + x^4 + x^5)]^3 = [x (1 - x^6) / (1 - x)]^3$$

$$x^3+3 \ x^4+6 \ x^5+10 \ x^6+15 \ x^7+21 \ x^8+25 \ x^9+27 \ x^{10}+27 \ x^{11}+25 \ x^{12}+21 \ x^{13}+15 \ x^{14}+10 \ x^{15}+6 \ x^{16}+3 \ x^{17}+x^{18}$$

(soma, possibilidades)

$$(3,1) * (4,3) * (5,6) * (6,10) * (7,15) * (8,21) * (9,25) * (10,27)$$





analisaremos agora o lançamento de dados assimétricos

$$A: x^3 + x^4 + x^5 + x^6 + x^7 = x^3 (1 + x + x^2 + x^3 + x^4)$$

$$B: x^2 + x^3 + x^4 + x^5 + x^6 = x^2 (1 + x + x^2 + x^3 + x^4)$$

$$C: x^1 + x^2 + x^3 + x^4 + x^5 = x (1 + x + x^2 + x^3 + x^4)$$

$$\text{usando: } 1 + x + x^2 + x^3 + x^4 = (1 - x^5) / (1 - x)$$

função geradora

$$[x^2 (1 + x + x^2 + x^3 + x^4)]^3 = [x^2 (1 - x^5) / (1 - x)]^3$$

$$x^6 + 3x^7 + 6x^8 + 10x^9 + 15x^{10} + 18x^{11} + 19x^{12} + 18x^{13} + 15x^{14} + 10x^{15} + 6x^{16} + 3x^{17} + x^{18}$$

(soma, possibilidades)

$$(6,1) * (7,3) * (8,6) * (9,10) * (10,15) * (11,18) * (12,19)$$



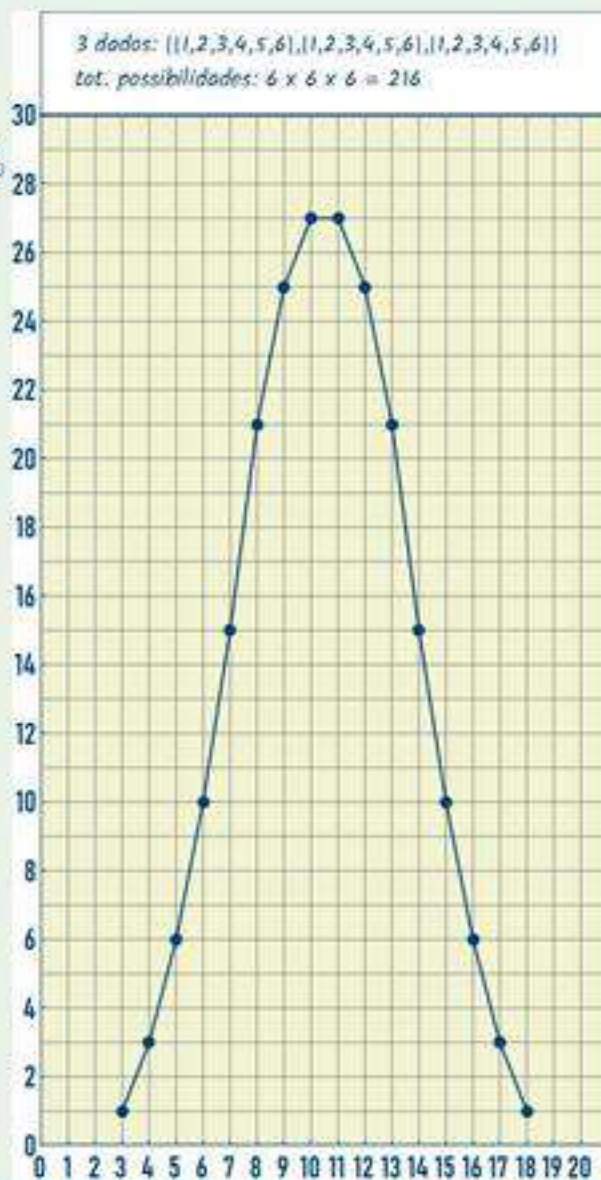


representação gráfica dos resultados

max prob.

soma 10 ou 11

$$27 / 216 = 12.5 \%$$



max prob.

soma 12

$$19 / 125 = 15.2 \%$$

