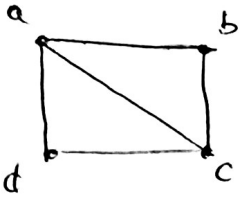
Juan Valentín Guevara Cano. 45338112Y

3.27

③, 2, 3, 2 → 0, 1, ②, 1 → 0, 0, 0, 0 ⇒ Es un grafo.

6:




$$P_g(x) = x\cdot(x-1)\cdot(x-2)\cdot(x-2) =$$

$$= x\cdot(x-1)(x-2)^2 = (x^2-x)(x^2+4-4x) =$$

$$= x^4 + 4x^2 - 4x^3 - x^3 - 4x + 4x^2 =$$

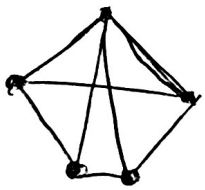
$$= x^4 - 5x^3 + 8x^2 - 4x$$

Si $x=6$

$$P_g(6) = 6^4 - 5\cdot 6^3 + 8\cdot 6^2 - 4\cdot 6 = 480.$$

Número cromático: 3

3.28



$$P_g(x) = x\cdot(x-1)(x-2)(x-2)(x-3) =$$

$$= (x^2-x)(x^2+4-4x)(x-3) =$$

$$= (x^4 + 4x^2 - 4x^3 - x^3 - 4x + 4x^2)(x-3) =$$

$$= (x^4 - 5x^3 + 8x^2 - 4x)(x-3) =$$

$$= x^5 - 3x^4 - 5x^4 + 15x^3 + 8x^3 - 24x^2 - 4x^2 + 12x =$$

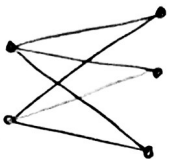
$$= x^5 - 8x^4 + 23x^3 - 28x^2 + 12x$$

Si $x=6$

$$P_g(6) = 6^5 - 8\cdot 6^4 + 23\cdot 6^3 - 28\cdot 6^2 + 12\cdot 6 = 1440$$

3.29

$K_{2,3}$

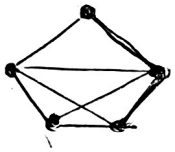


$P_g(x) = x \cdot (x-1) \cdot (x-1)(x-2) \cdot (x-2) = x^5 - 6x^4 + 13x^3 - 12x^2 + 4x$

Número cromático: 3

$P_g(6) = 6^5 - 6 \cdot 6^4 + 13 \cdot 6^3 - 12 \cdot 6^2 + 4 \cdot 6 = 2400$.

3.30



$P_g(x) = x \cdot (x-1)(x-1)(x-2)(x-3)(x-4) =$

$= x^5 - 8x^4 + 21 \cdot x^3 - 22 \cdot x^2 + 8x$

Número cromático: 5

$P_g(4) = 4^5 - 8 \cdot 4^4 + 21 \cdot 4^3 - 22 \cdot 4^2 + 8 \cdot 4 = 0$

3.31

$= (K_4 + K_3) \cdot (K_4 + 2K_3) = (x^4 + x^3)(x^4 + 2x^3)$

Número cromático es 3.

~~1555 200 formas~~

$180 \cdot 2 \cdot 120 = 43200$ formas distintas.