01) $2^{2x} - 5 \cdot 2^x = 4$

$2^x = y$

$y^2 - 5y + 4 = 0$

$y = 1$ ou $y = 4$

$2^x = 2^0$ ou $2^x = 2^2$

$x = 0$ ou $x = 2$

$S = \{0, 2\}$

02) A(1, –2)

B(0, 3)

$$D = \begin{vmatrix} 1 & -2 & 1 \\ 0 & 3 & 1 \\ x & y & 1 \end{vmatrix} = 0$$

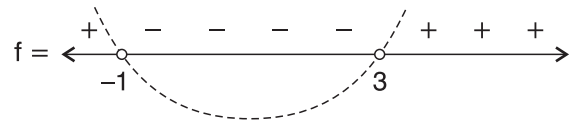
$$\begin{vmatrix} 1 & -2 & 1 & 1 & -2 \\ 0 & 3 & 1 & 0 & 3 \\ x & y & 1 & x & y \end{vmatrix} = 0$$

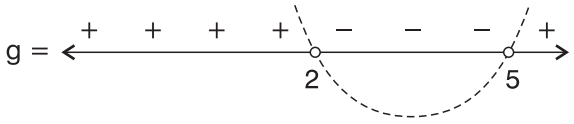
$3 - 2x - 3x - y = 0$

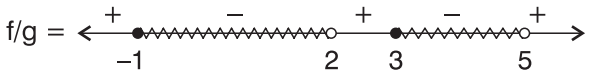
$-5x - y + 3 = 0 \quad (-1)$

$5x + y - 3 = 0$

03) $\begin{matrix} f \rightarrow \\ g \rightarrow \end{matrix} \dfrac{x^2 - 2x - 3}{x^2 - 7x + 10} \leq 0$







$S = \{x \in R / -1 \leq x < 2 \text{ ou } 3 \leq x < 5\}$

04) Anular: Erro no enunciado

05) SONHAR

$\underline{\quad\quad\quad\quad\quad\quad}$

$P_6 = 6!$

$P_6 = 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2 \cdot 1$

$P_6 = 720$

06) $\begin{matrix} \begin{cases} 3x + 2y = 10 \cdot (4) \\ 5x - 8y = 11 \end{cases} \\ + \\ \begin{cases} 12x + 8y = 40 \\ 5x - 8y = 11 \end{cases} \end{matrix}$

$17x = 51$

$x = 3$

$3x + 2y = 10$

$3 \cdot 3 + 2y = 10$

$2y = 10 - 9$

$2y = 1$

$y = \dfrac{1}{2}$

$x - y = 3 - \dfrac{1}{2} = \dfrac{5}{2}$