DATA

• Lista de Pré-Calculo - Lista 2

• Discente: Paulo Henrique Diniz

B.60 Resolução: ☑

c) $2^{3x-1} \cdot 4^{2x+3} = 8^{3-x} \Rightarrow 2^{3x} \cdot 2^{-1} \cdot 4^{2x} \cdot 4^{3} = 8^{3} \cdot 8^{-x}$

$\Rightarrow 2^{3x} \cdot 2^{-1} \cdot (2^2)^{2x} \cdot (2^2)^{3} = (2^3)^{3} \cdot (2^3)^{-x} \Rightarrow$

$2^{3x} \cdot 2^{-1} \cdot 2^{4x} \cdot 2^{6} = 2^{9} \cdot 2^{-3x}$

$2^{3x+(-1)+4x+6} = 2^{9+(-3x)} \Rightarrow 3x-1+4x+6 = 9-3x$

$\Rightarrow 7x+5 = 9-3x \Rightarrow 10x = 4 \Rightarrow x = \frac{4}{10} \rightarrow \frac{2}{5}$ $\boxed{x = 2/5}$

$S = \left\{ \frac{2}{5} \right\}$

---

d) $(3^{2x-7})^{3} : 9^{x+1} = (3^{3x-1})^{4} \Rightarrow \frac{3^{6x-21}}{9^{x+1}} = 3^{12x-4} \Rightarrow$

$\Rightarrow \frac{3^{6x-21}}{(3^2)^{x+1}} = 3^{12x-4} \Rightarrow \frac{3^{6x-21}}{3^{2x+2}} = 3^{12x-4} \Rightarrow$

$\Rightarrow 3^{(6x-21)-(2x+2)} = 3^{12x-4} \Rightarrow 3^{4x-23} = 3^{12x-4}$

$\Rightarrow 4x-23 = 12x-4 \Rightarrow -8x = 19 \ *(-1)$

$\Rightarrow 8x = -19 \rightarrow x = \frac{-19}{8}$

$S = \left\{ -\frac{19}{8} \right\}$