Matemáticas 3º PTAIRE (Semana 18 Maio)

1º) b) $3x-5+2x+3=x$

$3x-x+2x=5-3$

$4x=2$

$x=\frac{1}{2}$

2º) b) $\frac{x}{4}=\frac{2x-5}{3}$

$3x=4(2x-5)$

$3x=8x-20$

$-5x=-20$

$x=4$

3º) b) $\frac{x}{4}+3=2-\frac{x-2}{2}$

$\frac{x}{4}+\frac{12}{4}=\frac{8}{4}-\frac{2x-4}{4}$

$x+12=8-(2x-4)$

$x+2x=8+4-12$

$3x=0$

$x=0$

4º) b) $\frac{2x}{5}-\frac{5(x-2)}{3}=\frac{4-2x}{3}$

$\frac{6x}{15}-\frac{25(x-2)}{15}=\frac{5(4-2x)}{15}$

$6x-25x+50=20-10x$

$6x-25x+10x=20-50$

$-9x=-30$

$x=\frac{30}{9}=\frac{10}{3}$

5º) b) $\frac{4}{5x-1}=\frac{1}{x+2}$

$4(x+2)=5x-1$

$4x+8=5x-1$

$-x=-9$ $x=9$

6º) b) $\frac{4x}{5}-3\left(x-\frac{7}{3}\right)=\frac{2}{5}\left(\frac{x}{3}+\frac{4}{6}\right)$

$\frac{4x}{5}-3x+7=\frac{2x}{15}+\frac{8}{30}$

$\frac{24x}{30}-\frac{90x}{30}+\frac{210}{30}=\frac{4x}{30}+\frac{8}{30}$

$24x-90x-4x=8-210$

$-70x=-202$

$x=\frac{-202}{-70}=\frac{101}{35}$

7º) $x-5=\frac{x}{5}$

$5x-25=x$

$4x=25$

$x=\frac{25}{4}$

8ª) $x-\left(\frac{x}{4}+20\right)+\frac{1}{3}\cdot x = x$

$x-\frac{x}{4}-20+\frac{1}{3}x = x$

$\frac{12x}{12}-\frac{3x}{12}-\frac{240}{12}+\frac{4x}{12}=\frac{12x}{12}$

$x-240=0$

$x=240\ \ell$

9ª) $2x+2x+2+2x+4=36$

$6x+6=36$

$6x=30 \quad x=5$ Lado = 10, 12, 14 cm

10ª) $x+15+x+x=180$

$3x+15=180$

$3x=180-15$

$x=\frac{165}{3} \quad x=55$ // 55°, 55° e 70°

3º ~~E~~80 PTARE FQ. (Semana 18 Raio)

1ª) $6\,HCl(aq) + 2\,Al(s) \longrightarrow 2\,AlCl_3(aq) + 3\,H_2(g)$

$6\,mol\,HCl + 2\,mol\,Al \longrightarrow 2\,mol\,AlCl_3 + 3\,mol\,H_2$

$6\cdot 36{,}5\,g + 2\cdot 27\,g \longrightarrow 2\cdot 133{,}5\,g + 3\cdot 2\,g$

$219\,g\,HCl + 54\,g\,Al \longrightarrow 267\,g\,AlCl_3 + 6\,g\,H_2$

2ª) $3\,Cl_2(g) + 2\,Fe(s) \longrightarrow 2\,FeCl_3(s)$

$3\,mol\,Cl_2 + 2\,mol\,Fe \longrightarrow 2\,mol\,FeCl_3$

$3\cdot 71\,g + 2\cdot 55{,}8\,g \longrightarrow 2\cdot 162{,}3\,g$

$213\,g\,Cl_2 + 111{,}6\,g\,Fe \longrightarrow 324{,}6\,g\,FeCl_3$

Massa molar $HCl = 35{,}5+1 = 36{,}5\,g$

Massa molar $AlCl_3 = 27 + 35{,}5\cdot 3 = 133{,}5\,g$

Massa molar $Al = 27\,g$

Massa molar $Cl_2 = 35{,}5\cdot 2 = 71\,g$

Massa molar $FeCl_3 = 55{,}8 + 35{,}5\cdot 3 = 111{,}6\,g$ Fe