Soluções da Ficha1:

1.$a)-\frac{\pi}{4}$ $b)-\pi$ $c)\frac{\sqrt{3}}{2}$ $d)-\frac{\sqrt{3}}{3}$ $e)-\frac{3}{4}$ $f)-\frac{5}{13}$ $g)\frac{5\sqrt{3}-4}{2\sqrt{41}}$ $h)\frac{4+3\sqrt{3}}{10}$

2.$a)\frac{4\pi}{3}$ $b)\frac{1}{3}$ $c)-\frac{175}{144}$

3.$a)D_f=[0,1]$ $D'_f=[0,2\pi]$

$f^{-1}:[0,2\pi]\to[0,1]$

$x\hookrightarrow\frac{1}{2}+\frac{1}{2}\sin(\frac{x}{2}-\frac{\pi}{2})$

$b)D_g=[0,\frac{1}{2}]$ $D'_g=[-1,3\pi-1]$

$g^{-1}:[-1,3\pi-1]\to[0,\frac{1}{2}]$

$x\hookrightarrow\frac{1}{4}-\frac{1}{4}\cos(\frac{x}{3}+\frac{1}{3})$

$c)D_h=]-\infty,-5]\bigcup[1,+\infty[$ $D'_h=[\frac{\pi}{2},\frac{5\pi}{2}]\setminus\{\frac{3\pi}{2}\}$

$h^{-1}:[\frac{\pi}{2},\frac{5\pi}{2}]\setminus\{\frac{3\pi}{2}\}\to]-\infty,-5]\bigcup[1,+\infty[$

$x\hookrightarrow-2+\frac{3}{\cos(\frac{x}{2}-\frac{\pi}{4})}$

$d)D_i=\Re\setminus\{-5\}$ $D'_i=]-\frac{\pi}{6},\frac{5\pi}{6}[\setminus\{\frac{\pi}{3}\}$

$i^{-1}:]-\frac{\pi}{6},\frac{5\pi}{6}[\setminus\{\frac{\pi}{3}\}\to\Re\setminus\{-5\}$

$x\hookrightarrow-5+\frac{1}{\tan(x-\frac{\pi}{3})}$

4.$a)\frac{\pi}{3}$ $b)D_p=[-2,0]$ $c)D'_p=[-\frac{5\pi}{3},\frac{\pi}{3}]$ $c)x=\frac{-2+\sqrt{3}}{2}$

$d)i^{-1}:[-\frac{5\pi}{3},\frac{\pi}{3}]\to[-2,0]$

$x\hookrightarrow-1+\cos(-\frac{x}{2}+\frac{\pi}{6})$

$e)[-2,-\frac{1}{2}]$

5.$a)\frac{\pi}{2}$ $b)D_t=\Re\setminus\{-1\}$ $D'_t=]-\frac{\pi}{4},\frac{3\pi}{4}[\setminus\{\frac{\pi}{4}\}$ $c)x\epsilon]-\infty,-2[\bigcup]-1,+\infty[$

$d)t^{-1}:]-\frac{\pi}{4},\frac{3\pi}{4}[\setminus\{\frac{\pi}{4}\}\to\Re\setminus\{-1\}$

$x\hookrightarrow-1+\frac{1}{\tan(x-\frac{\pi}{4})}$

$e)y=-\frac{x}{2}+\frac{\pi}{2}$ $f)$ continua no pto de abcissa 0

6.$a)\frac{4\pi}{3}$ $b)D_g=]-\infty,-1]\bigcup[1,+\infty[$ $D'_g=]-\frac{2\pi}{3},\frac{4\pi}{3}[\setminus\{\frac{\pi}{3}\}$ $c)x\leq-1\vee x\geq2$

$d)g^{-1}:]-\frac{2\pi}{3},\frac{4\pi}{3}[\setminus\{\frac{\pi}{3}\}\to]-\infty,-1]\bigcup[1,+\infty[$

$x\hookrightarrow\frac{1}{\sin(\frac{x}{2}-\frac{\pi}{6})}$

$e)y=-\frac{\sqrt{3}}{3}(x+2).$