

Act 5

1) (a) $x \xrightarrow{g} x-5 \xrightarrow{f} \frac{1}{x-5}$ ou $g(x) = x-5$
 $f(x) = \frac{1}{x}$

(b) $x \xrightarrow{g} 7-x \xrightarrow{f} \sqrt{7-x}$ ou $g(x) = 7-x$
 $f(x) = \sqrt{x}$

(c) $x \xrightarrow{g} \sqrt{x} \xrightarrow{f} \sqrt{x}+3$ ou $g(x) = \sqrt{x}$
 $f(x) = x+3$

(d) $x \xrightarrow{g} \frac{1}{x} \xrightarrow{f} \frac{1}{x}+3$ ou $g(x) = \frac{1}{x}$
 $f(x) = x+3$

2) (a) $x \xrightarrow{k} x^2 \xrightarrow{f} x^2-2 \xrightarrow{m} \sqrt{x^2-2} \xrightarrow{n} \frac{1}{\sqrt{x^2-2}}$
 $n \circ m \circ f \circ k$

ou $k(x) = x^2$, $f(x) = x^2-2$, $m(x) = \sqrt{x}$, $n(x) = \frac{1}{x}$

(b) $x \xrightarrow{k} x^2 \xrightarrow{f} 2x^2 \xrightarrow{m} 2x^2+1 \xrightarrow{n} \sqrt{2x^2+1}$
 $n \circ m \circ f \circ k$

ou $k(x) = x^2$, $f(x) = 2x$, $m(x) = x+1$, $n(x) = \sqrt{x}$

(c) $x \xrightarrow{k} x+9 \xrightarrow{f} \sqrt{x+9} \xrightarrow{m} 3+\sqrt{x+9} \xrightarrow{n} \frac{1}{3+\sqrt{x+9}}$
 $n \circ m \circ f \circ k$

ou $k(x) = x+9$, $f(x) = \sqrt{x}$, $m(x) = 3+x$, $n(x) = \frac{1}{x}$

3) $f \circ g(x) = 3x^2 + 3x + 2 = 3(\dots) + 5$
 $= 3(x^2 + x + 1) + 5$ ↓ fleur...

d'où $g(x) = (x^2 + x + 1)$

4) $g \circ f(x) = h(x) = 4x - 1 \Leftrightarrow g(x+u) = 4x - 1$

d'où $g(x) = 4x - 17$ ↑ fleur...