Dérivation

- Dériver les fonctions suivantes

1) $f(x) = \text{Arcsin}(5x)$

2) $f(x) = \text{Arctg}(6x + 3)$

3) $f(x) = \text{Arccos}(x - 2)$

4) $f(x) = \dfrac{2}{\text{Arcsin}(3x)}$

5) $f(x) = \text{Arctg}\left(\dfrac{x}{2}\right)$

6) $f(x) = \text{Arcsin}(1 - 2x)$

7) $f(x) = \text{Arcsin}\left(x^2 - 3\right)$

8) $f(x) = \text{Arccos}\left(\dfrac{1}{x}\right)$

9) $f(x) = \text{Arcsin}^2(x)$

10) $f(x) = \text{Arctg}\sqrt{x}$

Solutions

1) $\frac{5}{\sqrt{1-25\,x^2}}$

2) $\frac{3}{18\,x^2+18\,x+5}$

3) $-\frac{1}{\sqrt{-x^2+4\,x-3}}$

4) $-\frac{6}{\sqrt{1-9\,x^2}\ \text{Arcsin}^2(3\,x)}$

5) $\frac{2}{x^2+4}$

6) $-\frac{1}{\sqrt{-(x-1)\,x}}$

7) $\frac{2\,x}{\sqrt{-x^4+6\,x^2-8}}$

8) $\frac{1}{x^2\sqrt{\frac{x^2-1}{x^2}}}$

9) $\frac{2\,\text{Arcsin}(x)}{\sqrt{1-x^2}}$

10) $\frac{1}{2\sqrt{x}\ (x+1)}$