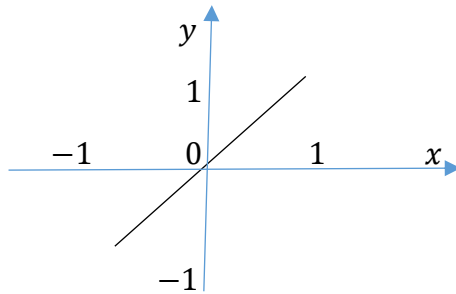


Profesor Blaga Mirela-Gabriela

Compunerea funcțiilor trigonometrice - 1

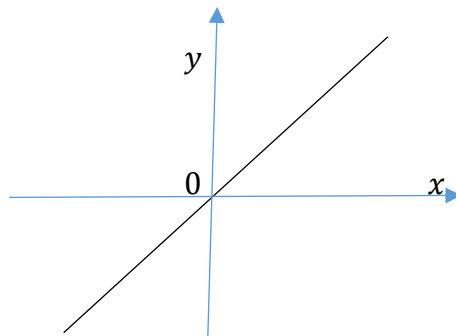
1. $f: [-1,1] \rightarrow [-1,1], f(x) = \sin(\arcsin x) = x$

2. $f: [-1,1] \rightarrow [-1,1], f(x) = \cos(\arccos x) = x$



3. $f: \mathbb{R} \rightarrow \mathbb{R}, f(x) = \operatorname{tg}(\operatorname{arctg} x) = x$

4. $f: \mathbb{R} \rightarrow \mathbb{R}, f(x) = \operatorname{ctg}(\operatorname{arcctg} x) = x$



Aplicații

1) Calculați $\sin\left(\arcsin\frac{1}{4}\right)$.

$$\sin(\arcsin x) = x, x \in [-1,1] \rightarrow \sin\left(\arcsin\frac{1}{4}\right) = \frac{1}{4}, \frac{1}{4} \in [-1,1]$$

2) Calculați $\sin\left(\arcsin\frac{1}{4} + \arccos\frac{1}{3}\right)$.

$$\sin(a + b) = \sin a \cdot \cos b + \sin b \cdot \cos a$$

$$\sin\left(\arcsin\frac{1}{4} + \arccos\frac{1}{3}\right) = \sin\left(\arcsin\frac{1}{4}\right) \cdot \cos\left(\arccos\frac{1}{3}\right) + \sin\left(\arccos\frac{1}{3}\right) \cdot \cos\left(\arcsin\frac{1}{4}\right)$$

$$= \frac{1}{4} \cdot \frac{1}{3} + \sqrt{1 - \left(\frac{1}{3}\right)^2} \cdot \sqrt{1 - \left(\frac{1}{4}\right)^2} = \frac{1 + 2\sqrt{30}}{12}$$