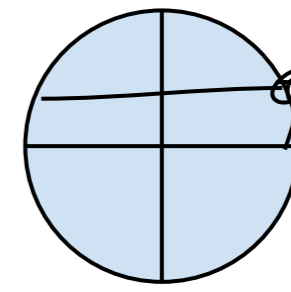


$$\cos t = 5/\sqrt{74}$$

$$\sin t = 7/\sqrt{74}$$



$$\arcsin(7/\sqrt{74}) = \arccos(5/\sqrt{74})$$

пример 1

$$1 \cdot \cos x + 1 \cdot \sin x = [\text{вынести нужно } \sqrt{1^2 + 1^2} = \sqrt{2}] =$$

$$= \sqrt{2}(\cos x \cdot 1/\sqrt{2} + \sin x \cdot 1/\sqrt{2}) =$$

$$= \sqrt{2}(\cos x \cdot \sin \pi/4 + \sin x \cdot \cos \pi/4) = \sqrt{2} \sin(x + \pi/4)$$

пример 2

$$1 \cdot \sin x - \cos x = [\text{вынести нужно } \sqrt{1^2 + (-1)^2} = \sqrt{2}] =$$

$$\sqrt{2}(\sin x \cdot 1/\sqrt{2} - \cos x \cdot 1/\sqrt{2}) = \sqrt{2}(\sin x \cdot \cos \pi/4 - \cos x \cdot \sin \pi/4) = \sqrt{2} \sin(x - \pi/4)$$

пример 3

$$1 \cdot \sin x - \sqrt{3} \cos x = [\text{вынести нужно } \sqrt{1^2 + (-\sqrt{3})^2} = 2] =$$

$$= 2(\sin x \cdot 1/2 - \cos x \cdot \sqrt{3}/2) = 2(\sin x \cdot \cos \pi/3 - \cos x \cdot \sin \pi/3) = 2 \sin(x - \pi/3)$$

пример 4

$$\sqrt{3} \sin x + 1 \cdot \cos x = [\sqrt{1^2 + (-\sqrt{3})^2} = 2] = 2(\sqrt{3}/2 \sin x + 1/2 \cos x) =$$

$$= 2(\cos \pi/6 \sin x + \sin \pi/6 \cos x) = 2 \sin(x + \pi/6)$$

пример 5

$$5 \sin x + 7 \cos x = [\sqrt{5^2 + 7^2} = \sqrt{74}] = \sqrt{74}(\sin x \cdot 5/\sqrt{74} + \cos x \cdot 7/\sqrt{74}) =$$

$$\sqrt{74}(\sin x \cdot \cos t + \cos x \cdot \sin t) = \sqrt{74} \sin(x + t) = \sqrt{74} \sin(x + \arcsin(7/\sqrt{74}))$$

$$a \sin x + b \cos x = \sqrt{a^2 + b^2} [a \sin x / \sqrt{a^2 + b^2} + b \cos x / \sqrt{a^2 + b^2}] =$$

$$= \sqrt{a^2 + b^2} [\cos t \sin x + \sin t \cos x] = \sqrt{a^2 + b^2} \sin(x + t)$$