

## Giải bài 3 trang 155 sgk toán Đại Số lớp 10

Đề bài: Tính

a)  $\sin \alpha$ , nếu  $\cos \alpha = \frac{-\sqrt{2}}{3}$ ,  $\frac{\pi}{2} < \alpha < \pi$ .

b)  $\cos \alpha$ , nếu  $\tan \alpha = 2\sqrt{2}$ ,  $\pi < \alpha < \frac{3\pi}{2}$ .

c)  $\tan \alpha$ , nếu  $\sin \alpha = \frac{-2}{3}$ ,  $\frac{3\pi}{2} < \alpha < 2\pi$ .

d)  $\cot \alpha$ , nếu  $\cos \alpha = \frac{-1}{4}$ ,  $\frac{\pi}{2} < \alpha < \pi$ .

Đáp án:

a) Nếu  $\frac{\pi}{2} < \alpha < \pi$  thì  $\sin \alpha > 0$

$$\sin \alpha = \sqrt{1 - \cos^2 \alpha} = \sqrt{1 - \frac{2}{9}} = \frac{\sqrt{7}}{3}$$

b) Nếu  $\pi < \alpha < \frac{3\pi}{2}$  thì  $\cos \alpha < 0$

$$\cos \alpha = -\sqrt{\frac{1}{1 + \tan^2 \alpha}} = -\sqrt{\frac{1}{1 + 8}} = -\frac{1}{3}$$

c) Nếu  $\frac{3\pi}{2} < \alpha < 2\pi$  thì  $\tan \alpha < 0$ ,  $\cos \alpha > 0$

$$\tan \alpha = \frac{\sin \alpha}{\cos \alpha} = \left(-\frac{2}{3}\right) : \sqrt{1 - \left(\frac{2}{3}\right)^2} = -\frac{2\sqrt{5}}{5}$$

d) Nếu  $\frac{\pi}{2} < \alpha < \pi$  thì  $\cot \alpha < 0$ ,  $\sin \alpha > 0$

$$\cot \alpha = \left(-\frac{1}{4}\right) : \sqrt{1 - \left(\frac{1}{4}\right)^2} = -\frac{\sqrt{15}}{15}$$