



基本問題を確認しよう

数Ⅱ

三角関数の相互関係(解答)

① θ は第3象限の角だから, $\sin \theta < 0$, $\tan \theta > 0$

$$\cos \theta = -\frac{2}{5} \text{ より,}$$

$$\sin \theta = -\sqrt{1 - \cos^2 \theta} = -\sqrt{1 - \left(-\frac{2}{5}\right)^2} = -\sqrt{\frac{21}{25}} = -\frac{\sqrt{21}}{5}$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} = -\frac{\sqrt{21}}{5} \div \left(-\frac{2}{5}\right) = \frac{\sqrt{21}}{2}$$

② $\sin \frac{8}{5}\pi = \sin \left(\pi + \frac{3}{5}\pi\right) = -\sin \frac{3}{5}\pi$

$$\text{さらに, } \sin \frac{3}{5}\pi = \sin \left(\frac{\pi}{2} + \frac{\pi}{10}\right) = \cos \frac{\pi}{10}$$

$$\text{よって, } \sin \frac{8}{5}\pi = -\cos \frac{\pi}{10}$$