

403

$i + r = 90^\circ$ より、

$$n = \frac{\sin i}{\sin(90^\circ - i)} \quad \dots \textcircled{1}$$

$$\begin{aligned} \sin(90^\circ - i) &= \sin 90^\circ \cdot \cos i - \cos 90^\circ \cdot \sin i \\ &= \cos i - 0 = \cos i \quad \dots \textcircled{2} \quad (\text{加法定理}) \end{aligned}$$

②式を①式に代入して、

$$n = \frac{\sin i}{\cos i} = \tan i$$