

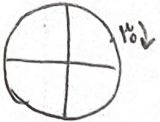
۱۔ روٹینگ (19)

14.40

$$\left[\frac{a}{\mu} \right] \cdot \left[\frac{1}{\mu} \right] = 0$$

②

Y



3

A hand-drawn diagram of a trapezoid with a vertical line segment inside, labeled 'K'.

②

9

④

$$\lim_{x \rightarrow \pi^+} \frac{\pi + K\left[\frac{x}{\pi}\right]}{\sin x} = \frac{\pi + K\left[\frac{-\pi x^+}{\pi}\right]}{0^+} = \frac{\pi - \pi K}{0^+} = +\infty \rightarrow \pi - \pi K > 0 \rightarrow \pi > \pi K \quad \boxed{9}$$

$\pi > K$

$$\lim_{x \rightarrow -\pi^-} \frac{\pi + K\left[\frac{-\pi x^-}{\pi}\right]}{\sin(-\pi x^-)} = \frac{\pi - \pi K}{0^-} = +\infty \rightarrow \pi - \pi K < 0 \rightarrow K > \frac{\pi}{\pi}$$

$$\rightarrow \pi > K > \frac{\pi}{\pi} \rightarrow \left[-\pi < -K < -\frac{\pi}{\pi}\right] \rightarrow [+ \pi], [-\pi] \quad \checkmark$$

(Y)

$$\lim_{x \rightarrow 1} \frac{b\sqrt{1+\sqrt{x}} - \pi b}{ax - b} = \frac{\pi b - \pi b}{1a - b} = \frac{0}{0} \xrightarrow{\text{HOP}} \frac{b \times \frac{1}{2\sqrt{x}}}{\pi \sqrt{1+\sqrt{x}}} = \frac{\left(\frac{b}{2\pi}\right)}{\frac{b}{1}} = \frac{b}{2\pi} \rightarrow \frac{1}{2\pi} \quad \boxed{10}$$

$\frac{1}{2\pi}$

(Y)