

$S = \Delta f$ $\Rightarrow h = x \Rightarrow S = x(x) = x^2 = \Delta f \Rightarrow x = \sqrt{\Delta f}$
 $P = \rho = 1.0x = 1.0\sqrt{\Delta f} = 3.0\sqrt{2}$ ✓

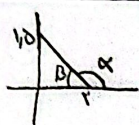
(۲) ①

$S_{ABC} - S_{ADE} = \frac{1}{2} \times \Delta x \times V \times \sin \hat{A} - \frac{1}{2} \times \epsilon \times V \times \sin \hat{A} = \frac{1}{2} \sin \hat{A} (\Delta x - \epsilon) = 1.1V\Delta = \frac{1}{2} \frac{V}{\rho} \Rightarrow \sin \hat{A} = \frac{1}{\rho}$
 $\rightarrow A = 30^\circ \rightarrow \tan \hat{A} = \frac{\sqrt{3}}{3}$ ✓

(۲) ②

$\frac{|\sin \alpha|}{\cos \alpha} = -\frac{\sin \alpha}{\cos \alpha} \rightarrow \sin(\pi - \alpha)$ $\left. \begin{array}{l} \text{است } \cos \alpha \ominus \\ \text{مبایز مابایز} \end{array} \right\}$ $\frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1}{|\cos \alpha|} + \frac{\sin \alpha}{|\cos \alpha|}$ ✓

(۳) ③



$\tan(\frac{\pi}{2} - \alpha) = +\cot \alpha$
 $\alpha > 90^\circ$

$\tan \beta = \tan(\pi - \alpha) = -\tan \alpha \Rightarrow \tan \alpha = -\frac{r}{k}$
 $\hookrightarrow = \frac{y_0}{r} = \frac{r}{k}$
 $\Rightarrow +\cot \alpha = \frac{r}{k}$ ✓

(۲) ④

$\frac{r \cos(\frac{3\pi}{4} - \alpha) - r \sin(\pi - \frac{3\pi}{4})}{\sin(\pi + \frac{3\pi}{4}) - \cos(\frac{3\pi}{4} + \alpha)}$ $\xrightarrow{r=1}$ $\frac{-r \sin \alpha - \sin \alpha}{-\sin \alpha - \sin \alpha} = \frac{-2}{-2} = 1$ ✓

(۲) ⑤

$\sin \alpha \rightarrow \ominus$ $\cos \alpha \rightarrow \oplus$ $\tan \alpha = -\frac{\sqrt{5}}{2}$
 $\frac{+\cos \alpha + \sin \alpha}{|\tan \alpha - 1|} = \frac{\frac{r-\sqrt{5}}{r}}{\frac{\Delta-f}{r}} = \frac{1-\sqrt{5}}{2}$ ✓

(۲) ⑥

$\tan \alpha = 2 \rightarrow \alpha = \sqrt{4+1} = \sqrt{5} \rightarrow \cos \alpha = \frac{-1}{\sqrt{5}} = \frac{-\sqrt{5}}{5}$ ✓

$\sin \alpha \rightarrow \ominus$ $\cos \alpha \rightarrow \ominus$ (۲) ⑦

$a = 90^\circ \rightarrow \tan 90^\circ = \sqrt{3} \rightarrow y = \frac{-2m}{m^2-1} x + 3 \rightarrow \frac{-2m}{m^2-1} = \sqrt{3} \rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0$
 $\rightarrow \frac{-2 \pm \sqrt{4+12}}{2\sqrt{3}} \rightarrow m_1 = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ $m_2 = \frac{-2}{\sqrt{3}} = \frac{-2\sqrt{3}}{3}$ $|m_1 - m_2| = \frac{5\sqrt{3}}{3}$ ✓

(۲) ⑧

$\tan(\frac{\pi}{2} - \alpha) = \tan(-(\alpha - \frac{\pi}{2})) = \frac{1-m}{r+m} \rightarrow \frac{-\pi}{2} < \alpha - \frac{\pi}{2} < \frac{\pi}{2} \rightarrow 0 < \alpha < \frac{\pi}{2}$ $\tan \alpha = \frac{1-m}{r+m}$
 $\tan \alpha > 0 \rightarrow \frac{1-m}{r+m} > 0 \rightarrow \frac{-r}{-\frac{r}{2} + \phi} \rightarrow m \in (-2, 1)$ ✓

(۲) ⑨

$\tan(\pi - 90^\circ) \cos(\pi + 90^\circ) + \tan(\pi - 90^\circ) \sin(\pi - 90^\circ)$
 $(-\tan 90^\circ) \times (-\cos 90^\circ) + (-\tan 90^\circ) (\sin 90^\circ) = -\sqrt{3} \left(\frac{-\sqrt{3}}{2} + \frac{\sqrt{3}}{2} \right) = 0$ ✓

(۲) ⑩