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Kelas : B

1. Rumus panjang busur lingkaran = $\frac{x^\circ}{360^\circ} 2\pi r$

Jari-jari = 10cm sudut = 30°

$$\text{Panjang busur} = \frac{x^\circ}{360^\circ} 2\pi r$$

$$= \frac{30^\circ}{360^\circ} 2\pi(10)$$

$$= 5,23$$

2. Pada jam ada 12 angka, maka $\frac{360^\circ}{12} = 30^\circ$. Dan untuk sudut yang dibentuk jarum jam dan jarum menit yang menunjukkan pukul 4 adalah $30^\circ \times 4 = 120^\circ$

3. $\csc a - \cot a = \frac{1}{5}$

$$\csc a - \cot a = \frac{1}{5}$$

$$\csc^2 a = \cot^2 a + 1 = \left(\frac{1}{5}\right)^2 + 1 = \frac{1}{25} + 1 = \frac{26}{25}$$

$$\csc^2 a - 1 = \cot^2 a = \frac{1}{25}$$

$$\csc^2 a = 1 + \frac{1}{25} = \frac{26}{25}$$

$$\csc a = \frac{1}{\sin a} = \frac{26}{25}$$

$$\csc a = \frac{26}{25} \times \frac{5}{2} = \frac{13}{5}$$

$$\csc a = \frac{1}{\sin a} = \frac{13}{5}$$

$$\text{Jadi, } \sin a = \frac{5}{13}$$

$$\begin{aligned}
4. &= 3 \sin A + 4 \cos A = 5 \\
&= 4(\sqrt{1 - \sin^2 A}) = 5 - 3 \sin A \\
&= \sqrt{1 - \sin^2 A} = \frac{5 - 3 \sin A}{4} \\
&= 1 - \sin^2 A = \frac{25 - 30 \sin A + 9 \sin^2 A}{16} \\
&= 16 - 16 \sin^2 A = 25 - 30 \sin A + 9 \sin^2 A \\
&= 25 \sin^2 A - 30 \sin A + 9 = 0 \\
&= (5 \sin A - 3)^2 = 0 \\
&= \sin A = \frac{3}{5} \text{ maka, ...} \\
&= 3 \sin A + 4 \cos A = 5 \rightarrow \frac{9}{5} + 4 \cos A = 5 \\
&= 4 \cos A = 5 - \frac{9}{5} = \frac{16}{5} \\
&= \cos A = \frac{16}{5 \times 4} = \frac{16}{20} = \frac{4}{5} \\
&= 3 \cos A - 4 \sin A \\
&= 3 \left(\frac{4}{5} \right) - 4 \left(\frac{3}{5} \right) = \frac{12}{5} - \frac{12}{5} = 0
\end{aligned}$$