

1. Fungsi $f(x) = (a + 4)x^2 - ax\sqrt{2} + (a - 3)$ bernilai tak negative jika ...

- A. $0 < a < 4$
- B. $0 \leq a \leq 4$
- C. $-4 < a \leq 4$
- D. $a > -4$
- E. $a \geq 4$

2. Jika $\sin 3^\circ = a$, maka

- (1) $\sin 3^\circ - 2 \sin 63^\circ = \sqrt{3 - 3a^2}$
- (2) $2 \sin 63^\circ - \sin 3^\circ = 2a + \sqrt{3 - 3a^2}$
- (3) $3 \sin 3^\circ - 2 \sin 63^\circ = a - \sqrt{3 - 3a^2}$
- (4) $2 \sin 3^\circ - 4 \sin 63^\circ = -2\sqrt{3 - 3a^2}$

3. ${}^4\log \cos x + ({}^4\log \cos x)^2 + ({}^4\log \cos x)^3 + \dots = -\frac{1}{3}$

Untuk $-\frac{\pi}{2} \leq x \leq 0$, maka $\sin 2x + \cos 2x = \dots$

- A. $\frac{1}{2}(\sqrt{3} - 1)$
- B. $-\frac{1}{2}(\sqrt{3} + 3)$
- C. 1
- D. $\frac{1}{2}(\sqrt{3} - 3)$
- E. $-\frac{1}{2}(\sqrt{3} + 1)$