

Ulangan Bab Limit Trigonometri

Pilihlah salah satu jawaban yang benar!

1. Nilai $\lim_{x \rightarrow 0} \frac{(2x)^3}{\sin^2 x \cdot \tan x} = \dots$

- a. 8
- b. 4
- c. 2
- d. $\frac{1}{2}$
- e. $\frac{1}{4}$

2. Nilai $\lim_{x \rightarrow 0} \frac{x \tan 3x}{1 - \cos^2 2x} = \dots$

- a. $-\frac{3}{2}$
- b. $-\frac{3}{4}$
- c. $-\frac{1}{2}$
- d. $\frac{1}{2}$
- e. $\frac{3}{4}$

3. Nilai $\lim_{x \rightarrow \infty} \frac{5x^2 - 2x + 6}{3x^2 - 1} = \dots$

- a. -5
- b. $-\frac{5}{3}$
- c. $\frac{3}{5}$
- d. $\frac{5}{3}$
- e. $\frac{3}{5}$

4. Nilai $\lim_{x \rightarrow \infty} (\sqrt{x^2 - 2x + 5} - \sqrt{x^2 + 7x + 3}) = \dots$

- a. -9
- b. $-4\frac{1}{2}$
- c. $2\frac{1}{2}$
- d. $4\frac{1}{2}$
- e. 9

5. Nilai $\lim_{x \rightarrow \infty} (\sqrt{16x^2 - 9x} - (4x - 3)) = \dots$

- a. $\frac{9}{16}$
- b. $\frac{15}{16}$
- c. $\frac{9}{8}$
- d. $\frac{15}{8}$
- e. $\frac{15}{4}$

6. Nilai $\lim_{x \rightarrow \infty} \frac{\sin \frac{5}{x}}{\frac{4}{x}} = \dots$

- a. 5
- b. 4
- c. $\frac{5}{4}$
- d. 1
- e. $\frac{4}{5}$

7. Nilai $\lim_{x \rightarrow \frac{\pi}{4}} \frac{\sin 2x + \cos 3x}{\sin x} = \dots$

- a. $\frac{1}{2}(2\sqrt{2} - 2)$
- b. $\frac{1}{2}(\sqrt{2} - 2)$
- c. $\frac{1}{2}(\sqrt{2} - 1)$
- d. $\frac{1}{2}(\sqrt{2} + 1)$
- e. $\frac{1}{2}(\sqrt{2} + 2)$

8. Nilai $\lim_{x \rightarrow \infty} (4x - 3 - \sqrt{16x^2 - 12x + 7}) = \dots$

- a. $-\frac{9}{2}$
- b. $-\frac{3}{2}$
- c. $\frac{3}{2}$
- d. $\frac{3}{4}$
- e. $\frac{9}{2}$

9. Nilai $\lim_{x \rightarrow 0} \frac{36x^2 \sin \frac{4x}{3}}{\tan^3 \frac{2}{3}x} = \dots$

- a. 162
- b. 92
- c. 72
- d. 36
- e. 16

10. Nilai $\lim_{x \rightarrow 0} \frac{(\frac{2x}{3})^3}{(1 - \cos^2 \frac{2x}{3}) \cdot \tan 6x} = \dots$

- a. $\frac{1}{9}$
- b. $\frac{1}{6}$
- c. 6
- d. 9
- e. 36

—Selamat Mengerjakan—