

BÀI TẬP BUỔI 2

Giới hạn của hàm số thực

$$6. \quad \lim_{x \rightarrow 8} \frac{\sqrt{9+2x} - 5}{\sqrt[3]{x} - 2}$$

$$\text{ĐS: } \frac{12}{5}$$

$$7. \quad \lim_{x \rightarrow +\infty} \left(\sqrt[3]{x^3 + 3x^2} - \sqrt{x^2 - 2x} \right)$$

$$\text{ĐS: } 2$$

$$8. \quad \lim_{x \rightarrow 0} \frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt[3]{1+x} - \sqrt[3]{1-x}}$$

$$\text{ĐS: } \frac{3}{2}$$

$$9. \quad \lim_{x \rightarrow \pi} \frac{\sin nx}{\sin mx} \quad m, n \in \mathbb{N}^*$$

$$\text{ĐS: } (-1)^{n-m} \frac{n}{m}$$

$$10. \quad \lim_{x \rightarrow \frac{\pi}{4}} \frac{\sin 2x - \cos 2x - 1}{\cos x - \sin x}$$

$$\text{ĐS: } -\sqrt{2}$$

$$11. \quad \lim_{x \rightarrow 0} \frac{\ln(\cos x)}{\ln(1+x^2)}$$

$$\text{ĐS: } -\frac{1}{2}$$

$$12. \quad \lim_{x \rightarrow 0} (x + \cos x)^{\frac{1}{\sin 3x}}$$

$$\text{ĐS: } \sqrt[3]{e}$$

$$13. \quad \lim_{x \rightarrow 0} \left(1 + \tan^2 \sqrt{x} \right)^{\frac{1}{x}}$$

DS: e

14.
$$\lim_{x \rightarrow 0} \frac{\sqrt[n]{a+x} - \sqrt[n]{a-x}}{x}$$

DS: $\frac{2}{n\sqrt[n]{a^{n-1}}}$

15.
$$\lim_{x \rightarrow 0} \frac{\sin(a+x) - \sin(a-x)}{x}$$

DS: $2\cos a$

16.
$$\lim_{x \rightarrow \infty} \left(\frac{2x+2}{2x-2} \right)^{3x+2}$$

DS: e^6