## EJERCICIO 24

Determina el valor de los siguientes límites:

$$1. \lim_{w \to 0} \frac{w^2}{\cos w - 1}$$

2. 
$$\lim_{\theta \to 0} \frac{\sin 3\theta}{\tan 4\theta}$$

$$3. \lim_{x\to 0} \frac{\cos x - 1}{\sin^2 x}$$

4. 
$$\lim_{\alpha \to 0} \frac{2 \sin \alpha - \tan 2\alpha}{\alpha}$$

$$5. \lim_{v \to 0} \frac{1 - \sec v}{v^2 \sec v}$$

6. 
$$\lim_{\theta \to \frac{\pi}{2}} \frac{\sin^2 \theta}{\tan^3 \theta}$$

7. 
$$\lim_{x \to 0} \frac{\sqrt[3]{(\cos x - 1)^2}}{\tan x}$$

8. 
$$\lim_{w \to \frac{\pi}{4}} \frac{\cos 2w}{\cos w - \sin w}$$

9. 
$$\lim_{x \to 0} \frac{\tan x}{\sqrt{1 - \sin x} - \sqrt{1 + \sin x}}$$

10. 
$$\lim_{\alpha \to 0} \frac{\tan(3+\alpha) - \tan(3-\alpha)}{\sin(3-\alpha) - \sin(3+\alpha)}$$

11. 
$$\lim_{x \to 0} \frac{x^2(a^2 - b^2)}{\cos ax - \cos bx}$$

12. 
$$\lim_{x\to 0} \frac{(\sec x)^m}{(\sec 2x)^m}$$

13. 
$$\lim_{\theta \to \frac{\pi}{2}} \left( \frac{\pi}{2} - \theta \right) \tan \theta$$

$$14. \lim_{w\to 0} \left( \frac{1}{\tan w} - \frac{1}{\sin w} \right)$$

15. 
$$\lim_{x \to 0} \frac{x^3}{2 \tan x - \sin 2x}$$

16. 
$$\lim_{x \to 0} \frac{\cos x - 1}{3x^3 \csc^2 x}$$

17. 
$$\lim_{x\to 0} \frac{\sin^2 3x}{x^2}$$

18. 
$$\lim_{w \to 0} \frac{\sec 2w - 1}{w \sec 2w}$$

$$19. \lim_{x\to 0} \frac{\cos mx - \cos nx}{2x^2}$$

20. 
$$\lim_{x \to 0} \frac{\cos 4x - \cos^2 2x}{x}$$