

$$1. \frac{1}{\sin \frac{\pi}{18}} - \frac{\sqrt{3}}{\cos \frac{\pi}{18}}$$

$$2. \frac{\cos(2x)}{(\sin x + \cos x)^2} + 2 \cdot \frac{\sin^3 x - \cos^3 x}{\sin x + \cos x}$$

$$3. \sin^2 \left(\frac{3\pi}{4} - 2x \right) - \sin^2 \left(\frac{7\pi}{6} - 2x \right) - \sin \frac{13\pi}{12} \cos \left(\frac{11\pi}{12} - 4x \right)$$

$$4. \sin^6 x + \cos^6 x - \frac{3}{4} \cdot (\sin^2 x - \cos^2 x)^2$$

$$5. \frac{\sin(3x)}{\sin x} - \frac{\cos(3x)}{\cos x}$$

$$6. \cos \frac{\pi}{9} \cos \frac{2\pi}{9} \cos \frac{3\pi}{9} \cos \frac{4\pi}{9}$$

$$7. 3 \sin x - 4 \sin^3 x$$

$$8. \frac{10 \cos x + 5 \cos(3x) + \cos(5x)}{16}$$

$$9. \frac{3 - 4 \cos(2x) + \cos(4x)}{3 + 4 \cos(2x) + \cos(4x)}$$

$$10. \frac{2\pi \sin(a\pi)}{1 - \cos(2a\pi)}$$

$$11. \sin^3(2x) \cos(6x) + \cos^3(2x) \sin(6x)$$

$$12. \frac{\frac{\sin(x-a)}{\sin(x-b)} \cdot \frac{\cos(x-a)}{\cos(x-b)} + 1}{\frac{\cos(x-a)}{\cos(x-b)} + \frac{\sin(x-a)}{\sin(x-b)}}$$

$$13. \frac{1}{\tan \frac{7\pi}{18}} + 4 \cos \frac{7\pi}{18}$$

$$14. \sin(6x) - 2\sqrt{3} \cos^2(3x) + \sqrt{3}$$

$$15. \frac{\sin x + \sin(2x) + \sin(3x) + \sin(4x) + \sin(5x)}{\cos x + \cos(2x) + \cos(3x) + \cos(4x) + \cos(5x)}$$

$$16. \frac{1 + \sin x}{1 - \sin x} + \frac{\sin x - 1}{\sin x + 1}$$

$$17. \frac{\sin(x+y) - \sin(x-y)}{\cos(x+y) + \cos(x-y)}$$

$$18. \frac{\sin^3 x - \cos^3 x}{\sin x - \cos x}$$

$$19. \tan x + \frac{\cos x}{1 + \sin x}$$

$$20. \frac{1}{1 + \cos x} + \frac{1}{1 - \cos x}$$

$$21. \frac{\sin(3x) + \sin(7x)}{\cos(3x) - \cos(7x)}$$

$$22. \frac{\tan(a+b) - \tan b}{1 + \tan(a+b) \tan b}$$

$$23. \frac{\cos^2 x}{1 - \sin x}$$

$$24. 1 - \frac{1}{4} \sin^2(2a) - \sin^2 b - \cos^4 a$$

$$25. \frac{\sin(10x)}{\sin x + \sin(9x)}$$