

$$1. \frac{d}{dx} [cu] = cu'$$

$$3. \frac{d}{dx} [uv] = uv' + vu'$$

$$5. \frac{d}{dx} [c] = 0$$

$$7. \frac{d}{dx} [x] = 1$$

$$9. \frac{d}{dx} [\ln u] = \frac{u'}{u}$$

$$11. \frac{d}{dx} [\sin u] = (\cos u)u'$$

$$13. \frac{d}{dx} [\tan u] = (\sec^2 u)u'$$

$$15. \frac{d}{dx} [\sec u] = (\sec u \tan u)u'$$

$$17. \frac{d}{dx} [\arcsin u] = \frac{u'}{\sqrt{1-u^2}}$$

$$19. \frac{d}{dx} [\arctan u] = \frac{u'}{1+u^2}$$

$$21. \frac{d}{dx} [\operatorname{arcsec} u] = \frac{u'}{|u|\sqrt{u^2-1}}$$

$$2. \frac{d}{dx} [u \pm v] = u' \pm v'$$

$$4. \frac{d}{dx} \left[\frac{u}{v} \right] = \frac{vu' - uv'}{v^2}$$

$$6. \frac{d}{dx} [u^n] = nu^{n-1}u'$$

$$8. \frac{d}{dx} [|u|] = \frac{u}{|u|}(u'), u \neq 0$$

$$10. \frac{d}{dx} [e^u] = e^u u'$$

$$12. \frac{d}{dx} [\cos u] = -(\sin u)u'$$

$$14. \frac{d}{dx} [\cot u] = -(\csc^2 u)u'$$

$$16. \frac{d}{dx} [\csc u] = -(\csc u \cot u)u'$$

$$18. \frac{d}{dx} [\arccos u] = \frac{-u'}{\sqrt{1-u^2}}$$

$$20. \frac{d}{dx} [\operatorname{arccot} u] = \frac{-u'}{1+u^2}$$

$$22. \frac{d}{dx} [\operatorname{arccsc} u] = \frac{-u'}{|u|\sqrt{u^2-1}}$$