

ANSWERS TO DERIVATIVE REVIEW

$$1. f'(x) = \frac{2x+b}{a}$$

$$12. f'(m) = \frac{2m}{\sqrt{1-m^4}}$$

$$2. y'(t) = \frac{-3}{2\sqrt{t}(\sqrt{t}+2)^2}$$

$$13. f'(\theta) = be^{-\theta} \cos(b\theta) - e^{-\theta} \sin(b\theta)$$

$$3. f'(x) = -x^2 \sin x + 2x \cos x + \sec x \tan x$$

$$14. s' = \frac{1}{t(1+\ln t)^2}$$

$$4. v' = \frac{5 \sec^2(5t)}{3(\tan(5t))^{2/3}}$$

$$15. f'(x) = \frac{-1}{2}x^{-3/2} - 4x^{-2}$$

$$5. z'(t) = 0$$

$$16. p' = \frac{-1}{(x^2+1)(\arctan x)^2}$$

$$6. w'(r) = \pi^r \cdot \pi r^{\pi-1} + r^\pi \ln \pi \cdot \pi^r$$

$$17. y' = \frac{3x^2 - x^3}{(1-x)^3}$$

$$7. y' = \frac{x}{5+x^2}$$

$$8. t'(y) = 18 \left(\frac{y-5}{y+1} \right)^2 \frac{1}{(y+1)^2}$$

$$9. f'(\Gamma) = \frac{\beta + 6\Gamma^5}{1-\beta}$$

$$10. f'(t) = \frac{-e^{1/t}}{t^2}$$

$$11. z' = 2$$