

Supplemental Exercises for Section 7.7

Compute each of the following derivatives.

1. $\frac{d}{dx} e^{\arctan x}$

2. $\frac{d}{dx} \tan(\arcsin x)$

3. $\frac{d}{dx} (\arcsin x)^{\frac{1}{3}}$

4. $\frac{d}{dx} \ln \arctan x$

5. $\frac{d}{dx} \frac{1}{\arctan x}$

6. $\frac{d}{dx} 2^{\arcsin x}$

7. $\frac{d}{dx} \frac{\arctan x}{\arcsin x^3}$

8. $\frac{d}{dx} \ln(\arcsin x^3)$

9. $\frac{d}{dx} e^{\arctan x^2}$

10. $\frac{d}{dx} x^3 \arcsin x^4$

Selected Answers

3. $\frac{1}{3} (\arcsin x)^{-\frac{2}{3}} \frac{1}{\sqrt{1-x^2}}$

5. $-(\arctan x)^{-2} \frac{1}{1+x^2}$

9. $e^{\arctan x^2} \frac{2x}{1+x^4}$