

Answer Key

1. $-2 \csc^2 8x$

2. $8 \left(x - \frac{1}{x^2} \right) \left(x^2 + \frac{2}{x} \right)^3$

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

4. $x \sec(x) \tan(x) + \sec(x) + 3\sin(3x)$

5. $\frac{x^2 + 12}{3(x^2 + 4)^{\frac{4}{3}}}$

6. $\frac{1 - 4y^3}{6xy^2}$

7. $6x^5 - 10x^4 + 4x^3 + 4x - 4$

8. $\frac{-3}{x^2} \tan^2 \left(\frac{1}{x} \right) \sec^2 \left(\frac{1}{x} \right)$

9. $1 - \frac{12}{x^3} = \frac{x^3 - 12}{x^3}$

10. $\frac{-\tan 4y}{4x}$

11. $y - 27 = 81(x - 1)$
 $y = 81x - 54$

12. $\frac{15}{4}$

13. $-4x$ (Must show work)

14. $90, -10$