Chain Rule - WS 5

Directions: Find $\frac{dy}{dx}$

1) $y = \sqrt{3x^4 - \sqrt{\sin x}}$

2) $y = e^{\sqrt{+\tan(3x)} - \frac{1}{\sqrt[3]{x}}}$

3) $y = \dfrac{3^{\csc\left(\frac{x}{2}\right)}}{\sec^2(x^3)}$

4) $y = \sec\left(\dfrac{\sqrt{\sin(x^2)}}{6x^3}\right)$

5) $y = \dfrac{\ln(6x^2)}{5x^4}$

6) $y = e^{4x^2}\ln(2x^4) - (x-3)^9(4x-6)^{10}$

7) $f(x) = \begin{cases} \sqrt{3x-3}, & x \le 4 \\ \sqrt{x} + 2ax, & x > 4 \end{cases}$

Find value of a that makes the function continuous.