Write down your 6 trig derivative rules below!

1)   2)

3)   4)

5)   6)

1)   If $y = \sqrt{tan^5\ (7 - \pi x^2\ )}$, find $\frac{dy}{dx}$

2)   Given $y = \dfrac{\cot(x^5)}{\sec(ex)}$ Find y'

3. Given $y = -x\csc(3 - \pi x)$ Find y'

4. $y\cos y = \csc y - y + 4x^2 - 5$ find $\frac{dy}{dx}$

5) If the position of a particle is $x(t) = 3\cot x$

a) Find a(t)

b) find acceleration at $t = \pi/4$

6. Find the tangent line equation for $f(x) = 2\cot^3(2x)$ at $x = \frac{\pi}{6}$