$\qquad$

Directions: Differentiate the following functions.

1. $y=e^{x / 2}$
2. $y=\cos ^{5}(x)$
3. $y=\left(1+\tan \left(e^{x}\right)\right)^{10}$
4. $y=x^{2} e^{\sin (x)}$
5. $y=\sec \left(x^{2}\right)+\sec ^{2}(x)$
$\qquad$

Directions: Differentiate the following functions.

1. $y=3 e^{-x}$
2. $y=\cos \left(e^{x^{2}+x}\right)$
3. $y=(x+\sin (x))^{8}$
4. $y=\frac{e^{x}}{\tan (3 x+1)}$
5. $y=\sec \left(x^{3}\right)+\sec ^{3}(x)$
