**Use the product rule to differentiate the following, show all work! (Check your answers at wolframalpha.com)**





**2**

 $3)f\left(x\right)=\left(-3+x^{-3}\right)(-4x^{3}+3)$

**Use the quotient rule to differentiate the following, show all work! (Check your answers at wolframalpha.com)**

$$ 4)f\left(x\right)=\frac{sinx-3x}{x}$$

$$ 5)f\left(x\right)=\frac{3(1-sinx)}{2cosx}$$

$$ 6)f\left(x\right)=\frac{3x-1}{\sqrt{x}}$$