Name: _____

    Find the derivatives of the following functions. You will need to use a combination of multiple rules.

1. $f(x) = \dfrac{\cos(x^2)}{\sin^2(x)}$ (note, $\sin^2(x)$ means $(\sin(x))^2$)

2. $f(x) = 3^{x^2 \ln(x)}$

Name: _____

     Find the derivatives of the following functions. You will need to use a combination of multiple rules.

1. $f(x) = \cos^2(x)\sin(x^2)$ (note, $\cos^2(x)$ means $(\cos(x))^2$)

2. $f(x) = \sqrt{(3^x + 1)(3x + 5)}$

Name: _____

Find the derivatives of the following functions. You will need to use a combination of multiple rules.

1. $f(x) = \dfrac{e^{3x}}{\sin(x^3)}$

2. $f(x) = (5x + \sin(x)\cos(x))^4$

Name: _____

    Find the derivatives of the following functions. You will need to use a combination of multiple rules.

1. $f(x) = \ln\left(\dfrac{x^8}{x^7 + 1}\right)$

2. $f(x) = \cos(x^2)\sin^2(x)$ (note, $\sin^2(x)$ means $(\sin(x))^2$)