**Practicing Partial Derivatives**

1. Let $f\left(x,y\right)=3xy^{3}+2x^{2}y$
	1. Find $f\_{x}$
	2. Find $f\_{y}$
	3. Find $\frac{∂^{2}f}{∂x∂y}$
	4. Find $\frac{∂^{2}f}{∂y∂x}$
	5. Find $f\_{xx}$
	6. Find $f\_{yy}$
2. Let $g\left(x,y,z\right)=xy\tan(\left(x^{2}y^{3}z^{4}\right))$. Compute
	1. $g\_{x}$
	2. $g\_{y}$
	3. $g\_{z}$
3. If $f\left(x,y,z\right)=xsin\left(yz\right)e^{xy}$, which partial is the easiest to find. Find it. Then find all other partials.
4. Consider $h\left(x,y,z,w\right)=2xy-3yz+4zw-5xw$. Compute $h\_{xyzw}$
5. Let $f\left(x,y\right)=\frac{xy sin\left(xy\right)}{cos⁡(xy)}$. Find $f\_{x}$ and $f\_{y}$
6. Consider $f\left(x,y\right)=\frac{x}{y}$. Find $f\_{xx}$, $f\_{yy}$, $f\_{xy}$, and $f\_{yx}$ and confirm that $f\_{xy}=f\_{yx}$. Find $f\_{xyyx}$