

1. (4 points) The following table gives values for $f(x)$, $f'(x)$, $g(x)$, and $g'(x)$ at different values of x .

$x =$	0	1	2	3
$f(x) =$	1	2	-1	0
$f'(x) =$	2	-1	1	3
$g(x) =$	3	2	0	1
$g'(x) =$	1	3	2	-1

a. If $p(x) = f(g(x))$, find $p'(1)$.

b. If $q(x) = f(x) \cdot g(x)$, find $q'(1)$.

2. (2 points) If $3xy + \cos(y) + 4 = x^3$, find $\frac{dy}{dx}$.

3. (2 points) If $y = 3x - 3$ is the linear approximation to $f(x) = x^2 - (a + 1)x + a$ at $x = 1$, what is a ?