## Calculus AB

Assume that $f(x)$ and $g(x)$ are differentiable functions about which we know information about a few discrete data points. The information we know is summarized in the table below:

Use your differentiation rules to determine each of the following.

1. If $p(x)=x f(x)$, find $p^{\prime}(2)$.

| $x$ | $f(x)$ | $f^{\prime}(x)$ | $g(x)$ | $g^{\prime}(x)$ |
| :---: | :---: | :---: | :---: | :---: |
| -2 | 4 | -1 | 5 | 6 |
| -1 | 3 | -5 | 1 | 7 |
| 0 | -6 | -3 | 8 | -5 |
| 1 | 1 | 6 | 2 | 3 |
| 2 | -1 | 5 | 1 | $?$ |

2. If $q(x)=3 f(x) g(x)$, find $q^{\prime}(-2)$.
3. If $r(x)=\frac{f(x)}{5 g(x)}$, find $r^{\prime}(0)$.
4. If $t(x)=\frac{2-f(x)}{g(x)}$ and $t^{\prime}(2)=4$, find $g^{\prime}(2)$.

## CW_Charts and Rules

## Calculus AB

Assume that $f(x)$ and $g(x)$ are differentiable functions about which we know information about a few discrete data points. The information we know is summarized in the table below:

Use your differentiation rules to determine each of the following.
3. If $p(x)=x f(x)$, find $p^{\prime}(2)$.

| $x$ | $f(x)$ | $f^{\prime}(x)$ | $g(x)$ | $g^{\prime}(x)$ |
| :---: | :---: | :---: | :---: | :---: |
| -2 | 4 | -1 | 5 | 6 |
| -1 | 3 | -5 | 1 | 7 |
| 0 | -6 | -3 | 8 | -5 |
| 1 | 1 | 6 | 2 | 3 |
| 2 | -1 | 5 | 1 | $?$ |

4. If $q(x)=3 f(x) g(x)$, find $q^{\prime}(-2)$.
5. If $r(x)=\frac{f(x)}{5 g(x)}$, find $r^{\prime}(0)$.
6. If $t(x)=\frac{2-f(x)}{g(x)}$ and $t^{\prime}(2)=4$, find $g^{\prime}(2)$.
