A. Is g differentiable at $x = 2$? Justify your answer.

B. Which is greater: the average rate of change of k on $[1,4]$ or the instantaneous rate of change of k at $x = 1$? Explain.

C. Let $m(x) = h(f(x))$. Find $m'(3)$.

D. Let $n(x) = h(x) \cdot f(x)$. Find $n'(3)$.

E. Use a right Riemann sum with the three subintervals indicated by the table to estimate $\int_2^8 h(x)\,dx$.

F. Write the equation of the line tangent to the graph of h at $x = 8$.

G. At which x-value(s) does the graph of j have horizontal tangent lines?

H. Find $\lim_{h\to 0} \frac{j(2+h)-j(2)}{h}$.

I. Let $p(x) = \frac{k(x)}{h(x)}$. Find $p'(3)$.

J. Find $\lim_{x\to 5} \frac{k(x)-k(5)}{x-5}$.

K. Find $g'(6)$ and write a sentence interpreting its meaning.

L. Are we guaranteed a value c for $4 < c < 7$ such that $f'(c) = \frac{1}{3}$? Explain.

M. Does h have a relative maximum, minimum, or neither at $x = -1$? Justify your answer.

N. Find $\lim_{x \to 2^-} f'(x)$.

O. Give two x-values where the graph of h is above the x-axis and h is decreasing at an increasing rate.

P. Let q be a function such that $q'(x) = g(x)$. At which x-values does the graph of q have a point of inflection? Explain.

Q. Let $w(x) = \int_{-2}^{x} j(t)dt$.Find $w'(0)$.

R. Let $r(x) = \cos(\pi x) \cdot f(x)$. Find $r'(4.5)$.

S. For $x \leq 2$, find $\lim_{h \to 0} \frac{g(x+h)-g(x)}{h}$.

T. Would the line tangent to the graph of h at $x = 5$ give an under- or over-approximation for $h(5.1)$? Explain.

U. Find $\int_1^3 f'(2x)\,dx$.

V. Let $w(x) = \int_{-2}^{x} j(t)dt$. Find $w(0)$.