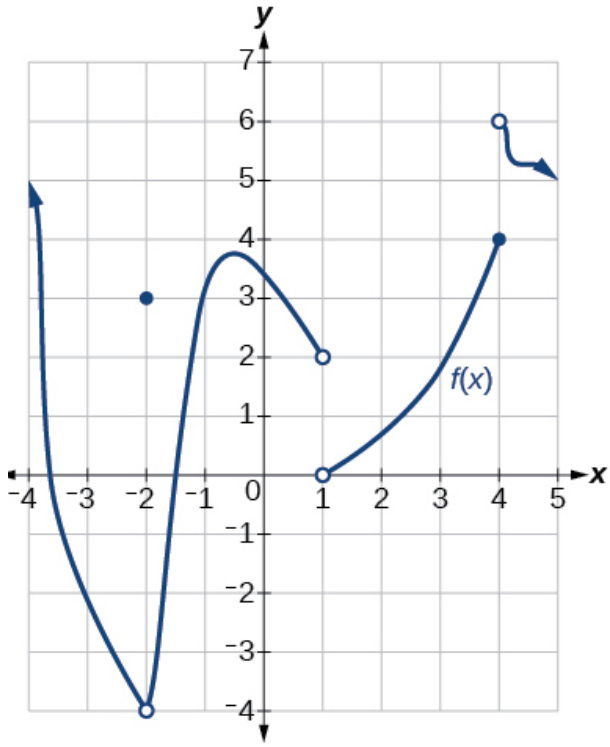
DATE: _____

$$g(x) = \begin{cases} 4x & x < -2 \\ -8 & -2 \le x < 5 \\ x^2 & x \ge 5 \end{cases}$$



Given $h(x) = f(x)g(x)$ and $k(x) = g(f(x))$, find each of the following:

a) $\lim_{x \to -2} h(x)$ **b)** $\lim_{x \to -2} k(x)$ **c)** $h(-2)$ **d)** $k(-2)$

e) $\lim_{x \to 1} h(x)$ **f)** $\lim_{x \to 1} k(x)$ **g)** $h(1)$ **h)** $k(1)$

i) $\lim_{x \to 0} h(x)$ **j)** $\lim_{x \to 0} k(x)$ **k)** $h(0)$ **l)** $k(0)$

m) $\lim_{x \to 4} h(x)$ **n)** $\lim_{x \to 4} k(x)$ **o)** $h(4)$ **p)** $k(4)$