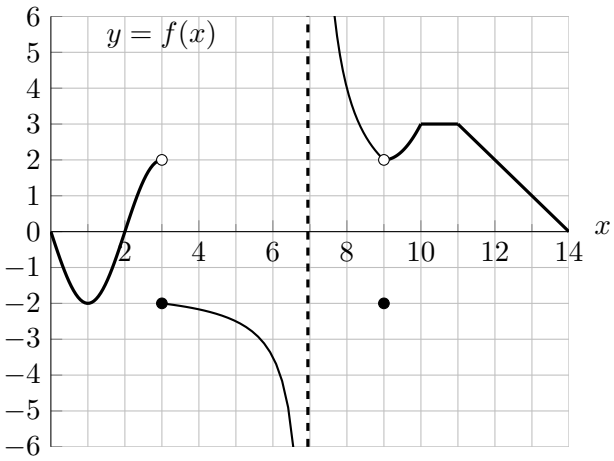
5. [15 points]
Below is a portion of the graph of an **odd** function $f(x)$, and the formula for a function $g(x)$. Note that $f(x)$ is linear for $11 < x < 14$.



$$g(x) = \frac{x^4 + 1}{e^{x^2}}$$

In the following parts, evaluate each of the given quantities. If the value does not represent a real number (including the case of limits that diverge to ∞ or $-\infty$), write DNE or "does not exist." You do not need to show work in this problem. Give your answers in **exact form**.

a. [2 points] $g(f(2))$

Answer: $= \underline{\quad 1 \quad}$

b. [2 points] $\lim_{x \to 7} f(x)$

Answer: $= \underline{\quad \text{DNE} \quad}$

c. [2 points] $\lim_{x \to -1} \Big(f(x) + g(x) \Big)$

Answer: $= \underline{\quad 2 + \frac{2}{e} \quad}$

d. [2 points] $\lim_{x \to \infty} g(x)$

Answer: $= \underline{\quad 0 \quad}$

e. [2 points] $\lim_{h \to 0} \dfrac{f(12+h) - 2}{h}$

Answer: $= \underline{\quad -1 \quad}$

f. [2 points] $\lim_{x \to -9} f(x)$

Answer: $= \underline{\quad -2 \quad}$

g. [2 points] $\lim_{x \to 11^+} f(f(x))$

Answer: $= \underline{\quad 2 \quad}$

h. [1 point] $\lim_{x \to 3} g(f(x))$

Answer: $= \underline{\quad \frac{17}{e^4} \quad}$