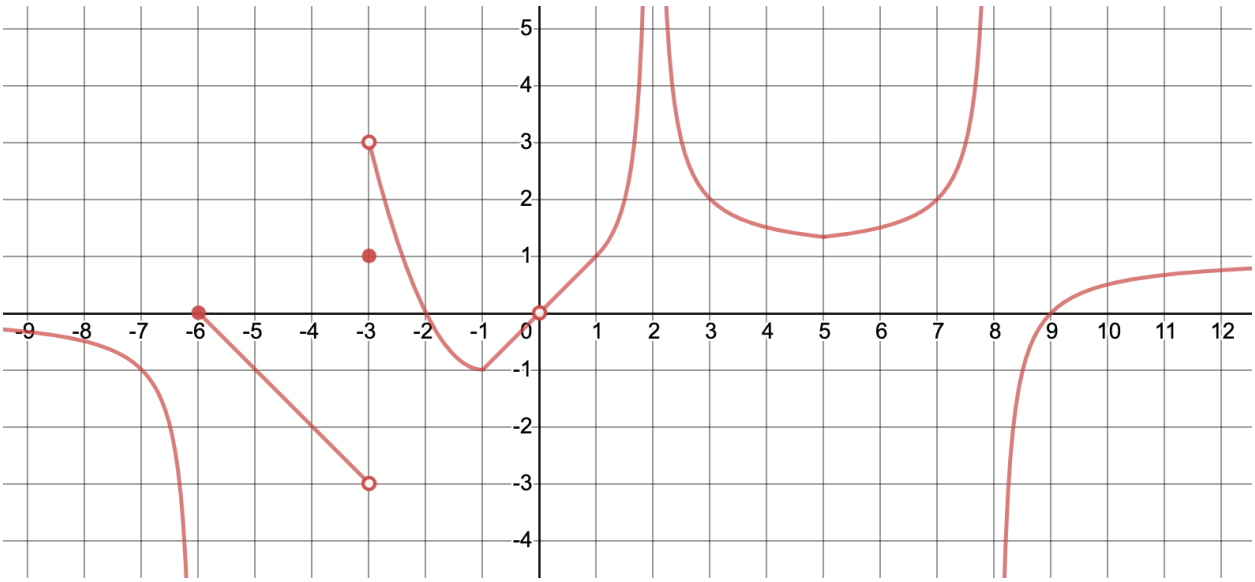
Consider the below graph of a function $f(x)$ (integer coordinates can be assumed where clear).




Find the following limits, if they exist. If they do not, indicate whether the limit is $\infty$, $-\infty$, or DNE. (No proofs required.)

(a) $\lim_{x\to-\infty} f(x)$

**Solution:** 0

(b) $\lim_{x\to-6^-} f(x)$

**Solution:** $-\infty$

(c) $\lim_{x\to-6^+} f(x)$

**Solution:** 0

(d) $\lim_{x\to-6} f(x)$

**Solution:** DNE

(e) $\lim_{x\to-4^-} f(x)$

**Solution:** $-2$

(f) $\lim_{x\to-4^+} f(x)$

**Solution:** $-2$

(g) $\lim_{x\to-4} f(x)$

**Solution:** $-2$

(h) $\lim_{x\to-3^-} f(x)$

**Solution:** $-3$

(i) $\lim_{x\to-3^+} f(x)$

**Solution:** 3

(j) $\lim_{x\to-3} f(x)$

**Solution:** DNE

(k) $\lim_{x\to0^-} f(x)$

**Solution:** 0

(l) $\lim_{x\to0^+} f(x)$

**Solution:** 0

(m) $\lim_{x\to0} f(x)$

**Solution:** 0

(n) $\lim_{x\to2^-} f(x)$

**Solution:** $\infty$

(o) $\lim_{x\to2^+} f(x)$

**Solution:** $\infty$

(p) $\lim_{x\to2} f(x)$

**Solution:** $\infty$

(q) $\lim_{x\to8^-} f(x)$

**Solution:** $\infty$

(r) $\lim_{x\to8^+} f(x)$

**Solution:** $-\infty$

(s) $\lim_{x\to8} f(x)$

**Solution:** DNE

(t) $\lim_{x\to\infty} f(x)$

**Solution:** 1

Where is the function discontinuous? Identify the type of discontinuity at such points.

**Solution:** Removable discontinuity at 0.
Jump discontinuity at $-3$.
Infinite discontinuities at $-6, 2, 8$.