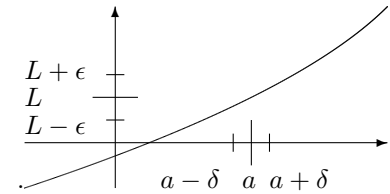Complete the following definitions and illustrate each with a graph.

1.　　$\lim\limits_{x \to a} f(x) = L$　　means for every　$\epsilon > 0$　there exists　$\delta > 0$ such that　$0 < |x - a| < \delta$　implies　$|f(x) - L| < \epsilon$　.

2.　　$\lim\limits_{x \to a^+} f(x) = L$　　means for every　$\epsilon > 0$　there exists　$\delta > 0$ such that　$0 < x - a < \delta$　implies　　　　　.

3.　　$\lim\limits_{x \to a^-} f(x) = L$　　means for every　$\epsilon > 0$　there exists　$\delta > 0$ such that　　　　　implies

4.　　$\lim\limits_{x \to \infty} f(x) = L$　　means for every　$\epsilon > 0$　there exists　N　such that　　$x > N$　　implies　$|f(x) - L| < \epsilon$　.

5.　　$\lim\limits_{x \to -\infty} f(x) = L$　　means for every　　　there exists　　　such that　　　implies　　　.

6.　　$\lim\limits_{x \to a} f(x) = \infty$　　means for every　　　there exists　　　such that　　　implies　$f(x) > M$　.

7.　　$\lim\limits_{x \to a^+} f(x) = \infty$　　means for every　　　there exists　　　such that　　　implies　　　.

8. $\displaystyle\lim_{x \to a^-} f(x) = \infty$ means for every   there exists   such that   implies   .

9. $\displaystyle\lim_{x \to a} f(x) = -\infty$ means for every   there exists   such that   implies   .

10. $\displaystyle\lim_{x \to a^+} f(x) = -\infty$ means for every   there exists   such that   implies   .

11. $\displaystyle\lim_{x \to a^-} f(x) = -\infty$ means for every   there exists   such that   implies   .

12. $\displaystyle\lim_{x \to \infty} f(x) = \infty$ means for every   there exists   such that   implies   .

13. $\displaystyle\lim_{x \to -\infty} f(x) = \infty$ means for every   there exists   such that   implies   .

14. $\displaystyle\lim_{x \to \infty} f(x) = -\infty$ means for every   there exists   such that   implies   .

15. $\displaystyle\lim_{x \to -\infty} f(x) = -\infty$ means for every   there exists   such that   implies   .