AP Calculus AB Name_____

Infinite Limits Limits, Cont., & R.O.C Day 7

1. Explain the meaning of each of the following.

A.) $\lim_{x\to -3} f(x) = \infty$

B.) $\lim_{x\to 4^+} f(x) = -\infty$

2-9: Determine the infinite limit.

2. $\lim_{x\to -3^+} \frac{x+2}{x+3}$

3. $\lim_{x\to -3^-} \frac{x+2}{x+3}$

4. $\lim_{x\to 1} \frac{2-x}{(x-1)^2}$

5. $\lim_{x\to 5^-} \frac{e^x}{(x-5)^3}$

6. $\lim_{x\to 3^+} ln(x^2-9)$

7. $\lim_{x\to \pi^-} cotx$

8. $\lim_{x\to 2^-} \frac{x^2-2x}{x^2-4x+4}$

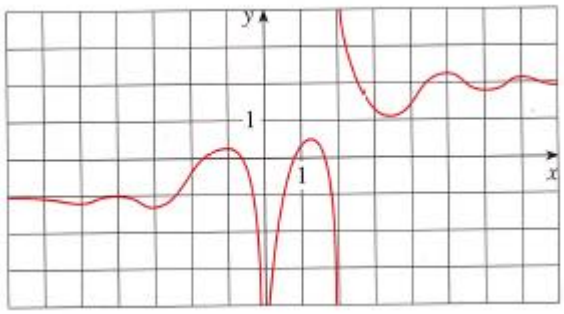
9. $\lim_{x\to 2^+} \frac{x^2-2x-8}{x^2-5x+6}$

10. Explain the meaning of each of the following.

A.) $\lim_{x\to \infty} f(x) = 5$

B.) $\lim_{x\to -\infty} f(x) = 3$

11.



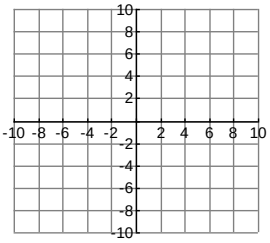
A.) $\lim_{x\to \infty} g(x)$	B.) $\lim_{x\to -\infty} g(x)$
C.) $\lim_{x\to 0} g(x)$	D.) $\lim_{x\to 2^+} g(x)$
E.) $\lim_{x\to 2^-} g(x)$	F.) The equation of the asymptotes.

AP Calculus AB Name_____

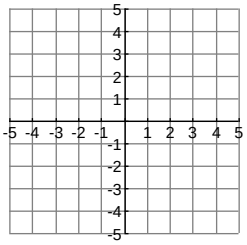
Infinite Limits Limits, Cont., & R.O.C Day 6

12-17: Sketch the graph of a function f that satisfies all of the given conditions.

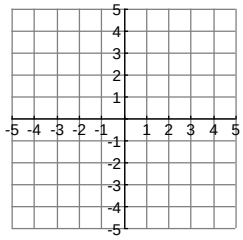
12. $\lim_{x\to 0} f(x) = -\infty$
$\lim_{x\to -\infty} f(x) = 5$
$\lim_{x\to \infty} f(x) = -5$



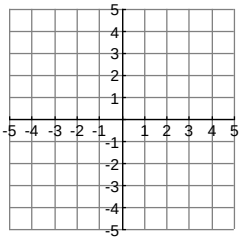
13. $\lim_{x\to 2} f(x) = \infty$
$\lim_{x\to -2^+} f(x) = \infty$
$\lim_{x\to -2^-} f(x) = -\infty$
$\lim_{x\to -\infty} f(x) = 0$
$\lim_{x\to \infty} f(x) = 0$
$f(0) = 0$



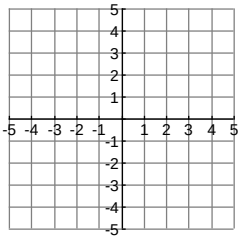
14. $\lim_{x\to 2} f(x) = -\infty$
$\lim_{x\to \infty} f(x) = \infty$
$\lim_{x\to -\infty} f(x) = 0$
$\lim_{x\to 0^+} f(x) = \infty$
$\lim_{x\to 0^-} f(x) = -\infty$



15. $\lim_{x\to \infty} f(x) = 3$
$\lim_{x\to 2^-} f(x) = \infty$
$\lim_{x\to 2^+} f(x) = -\infty$
f is odd



16. $f(0) = 3$
$\lim_{x\to 0^-} f(x) = 4$
$\lim_{x\to 0^+} f(x) = 2$
$\lim_{x\to -\infty} f(x) = -\infty$
$\lim_{x\to 4^-} f(x) = -\infty$
$\lim_{x\to 4^+} f(x) = \infty$
$\lim_{x\to \infty} f(x) = 3$



17. $\lim_{x\to 3} f(x) = -\infty$
$\lim_{x\to \infty} f(x) = 2$
$f(0) = 0$
f is even