Warm Up AP Calculus Day 14

(4, 3)

(3, 3.5)

(2, 0)

(0,-3)

(-2, 0)

(-4, 3)

1. When is f(x) > 0 and f’(x) < 0? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. When is f(x) > 0 and f’(x) > 0? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. When is f(x) < 0 and f’(x) < 0? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. When is f(x) < 0 and f’(x) > 0? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. When is f’(x) = 0? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What is the limit of f(x) as x approaches 0 from the left? That is $\lim\_{x\to 0^{-}}f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_
7. What is $\lim\_{x\to 2^{-}}f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. What is $\lim\_{x\to 3}f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What is $\lim\_{x\to 4^{-}}f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. What is $\lim\_{x\to 4^{+}}f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. What is $\lim\_{x\to 4}f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. What is f(4)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. What is $\lim\_{x\to \infty }f\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Let g(x) = f(x + 3). What would be $\lim\_{x\to 2}g\left(x\right)?$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. If f(k) = 0, and k<0, what is k – 9? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_