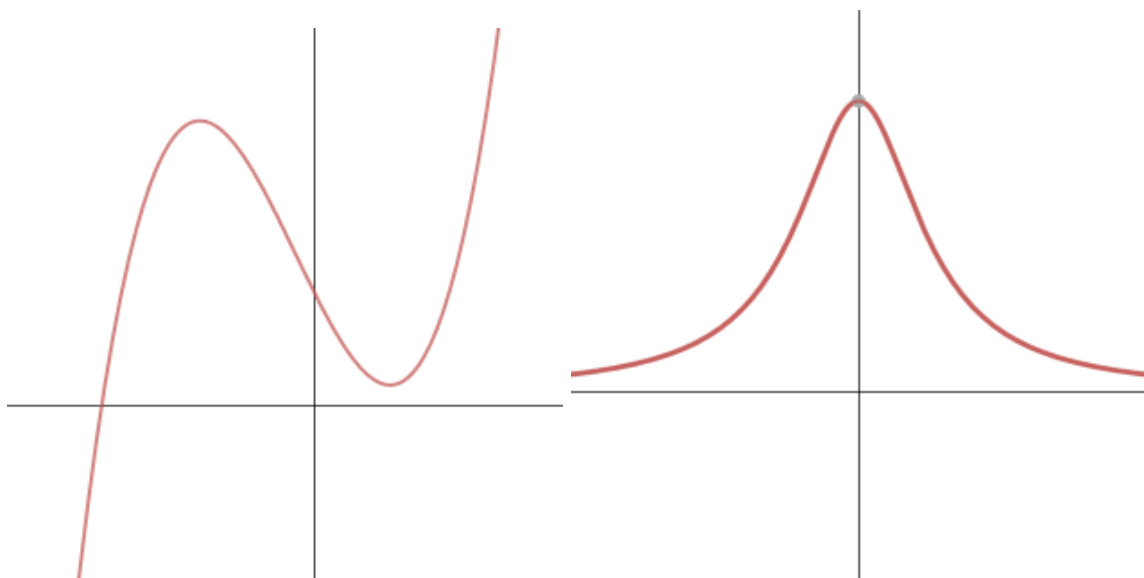
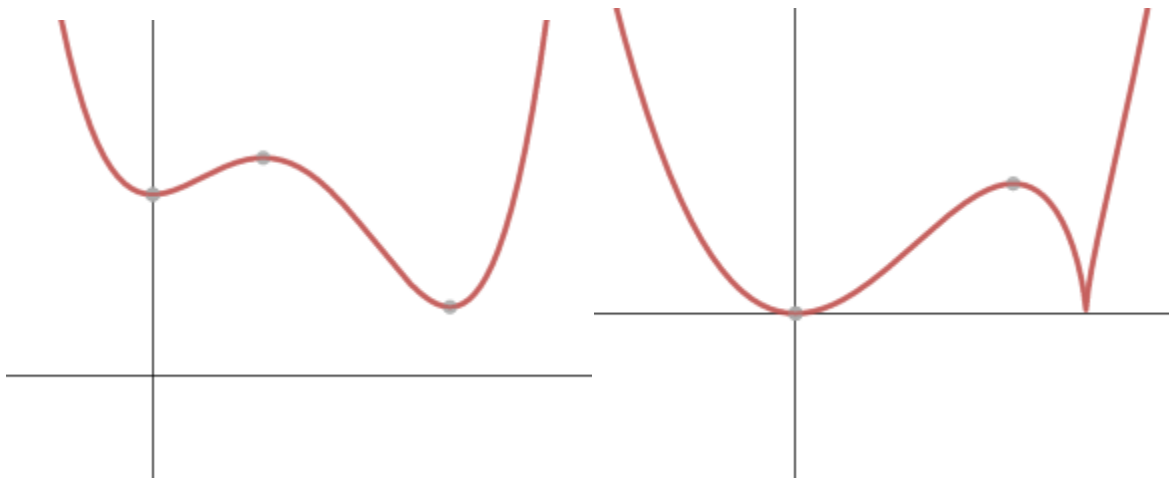


Exercise set 6.1: Sketching Derivatives

1. Sketch the derivative of each of these functions.



2. Sketch the derivative of each of these functions.

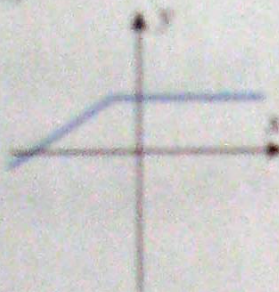


1

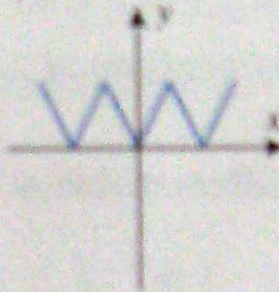
1 $y = 2x^2(x-1)^{\frac{2}{3}}$

23. Match the graphs of the functions shown in (a)–(f) with the graphs of their derivatives in (A)–(F).

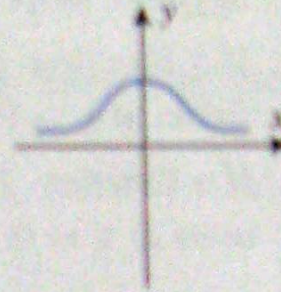
(a)



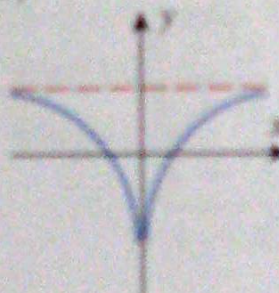
(b)



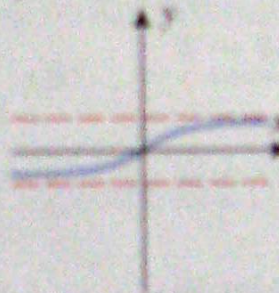
(c)



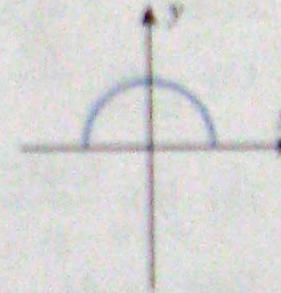
(d)



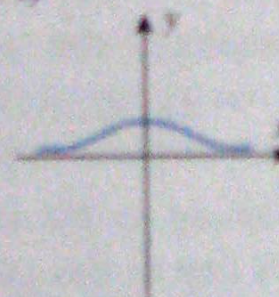
(e)



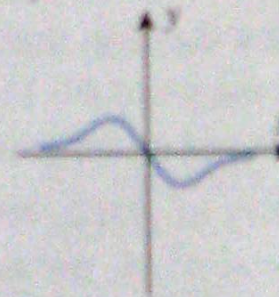
(f)



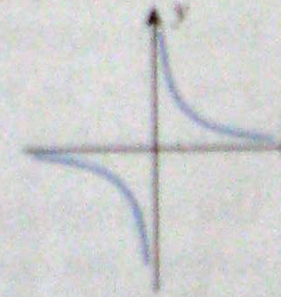
(A)



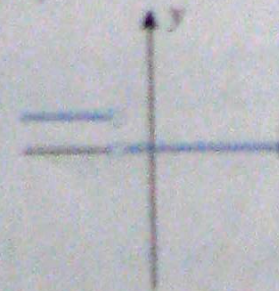
(B)



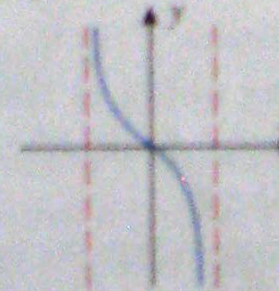
(C)



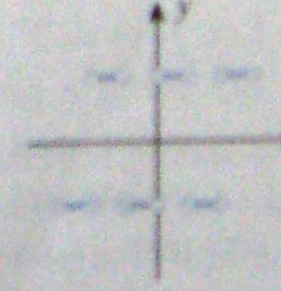
(D)



(E)



(F)



3. Find the derivative of the following function² when x is:

- a. 0
- b. 1
- c. -1
- d. 1.5



² Hint: Since you don't have the equation for $f(x)$ you'll need to do this graphically. Remember that the derivative just measures the slope of a tangent line at a point on a graph.