PRACTICE QUIZ 2

ADRIAN PĂCURAR

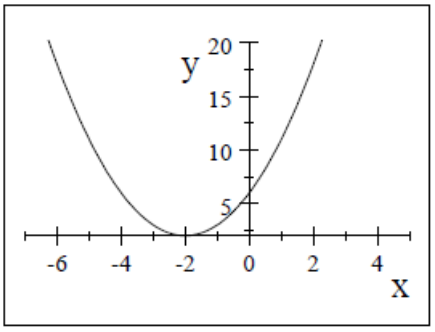
Allowed Time: 10 min
Time to beat: 3 min

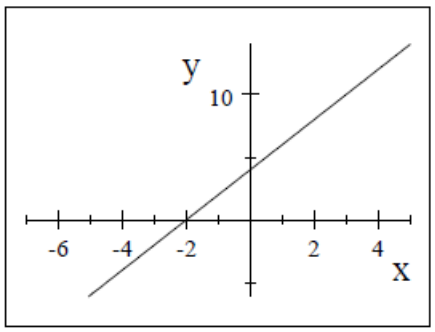
Problem 1. Find the region where $f(x) = -\frac{x^2}{(x-1)^5}$ is continuous.

Problem 2. If $f(x) = 5x^2 + 3x$, find the equation of the tangent line at $x = 1$.

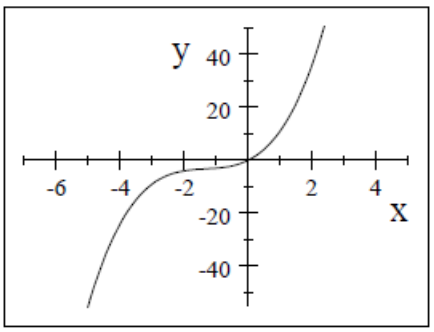
Problem 3. The limit $\lim_{h\to 0} \frac{\sqrt{h+4}-\sqrt{4}}{h}$ represents the derivative of a function $f(x)$ at some point $x = a$. State $f(x)$ and a.

Problem 4. Match the given graph of the function with the graph of its derivative:

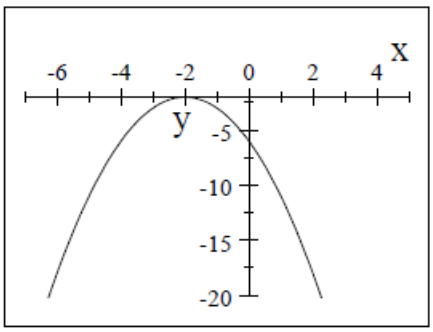



y
10
-6
-4
-2
2
4
x

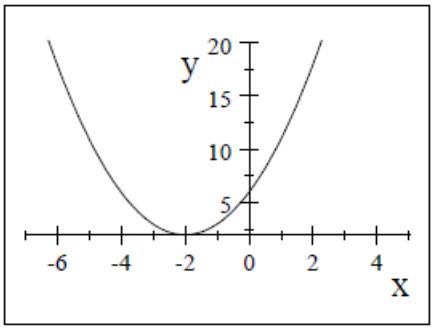
A


y
40
20
-6
-4
-2
2
4
x
-20
-40

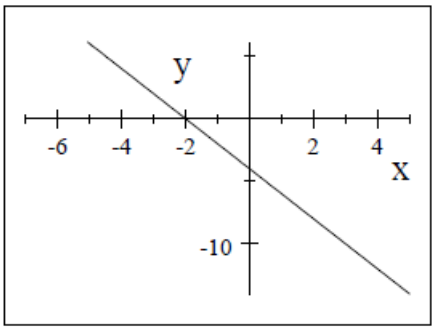
B


x
-6
-4
-2
0
2
4
y
-5
-10
-15
-20

C


y
20
15
10
5
-6
-4
-2
0
2
4
x

D


y
-6
-4
-2
2
4
x
-10

E