The Derivative Function

1. Let f be the functions whose graph is given. Estimate the following values and then sketch the graph of f' as we did in class with the first example.
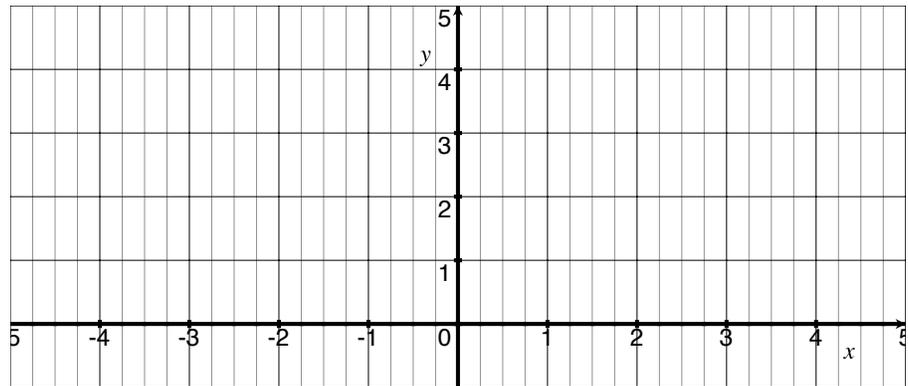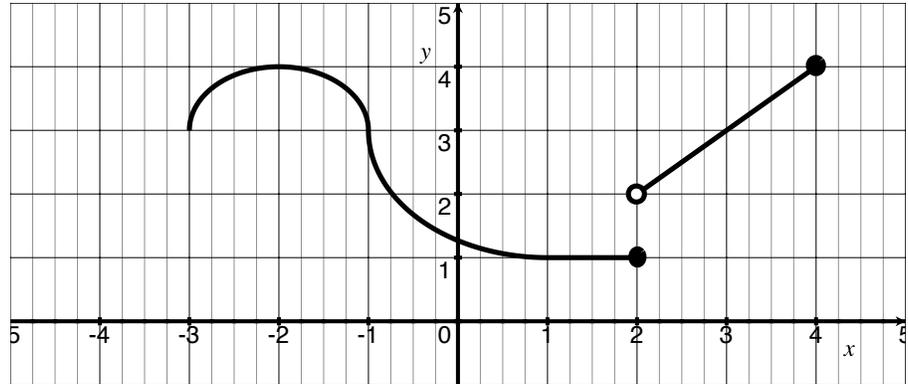
$f'(4)$

$f'(3)$

$f'(2)$

$f'(1)$

$f'(0)$

$f'(-1)$

$f'(-2)$

$f'(-3)$

Recall that
$$f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}.$$

2. Find $g'(x)$ if $g(x) = x^3 + x$.

3. Find $p'(x)$ if $p(x) = \dfrac{1-x}{2+x}$

Note: The above are Examples 2 & 4 from §2.8.