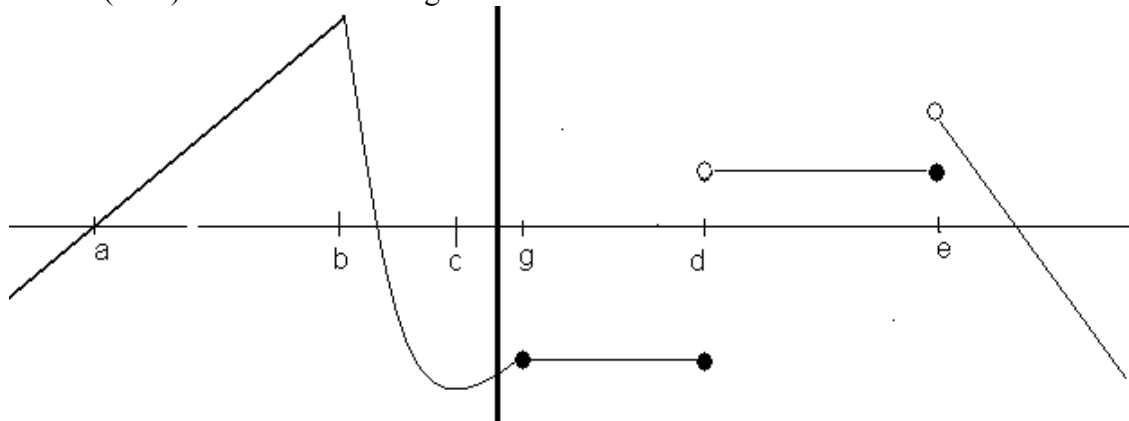Name: _____   Date: _____

QUIZ – STATIONARY POINTS AND FUNCTION ANALYSIS

1. (10%) In a stationary point the value of the derivative is _____

2. (10%) If the value of the derivative is 0 at a point then the point must be a minimum or a maximum. True / False. Explain!

3. (5%) If $f'(a) < 0$, that means that the function is _____ at a.

4. (5%) If $f'(a) = 0$, that means that the function has _____ at a.
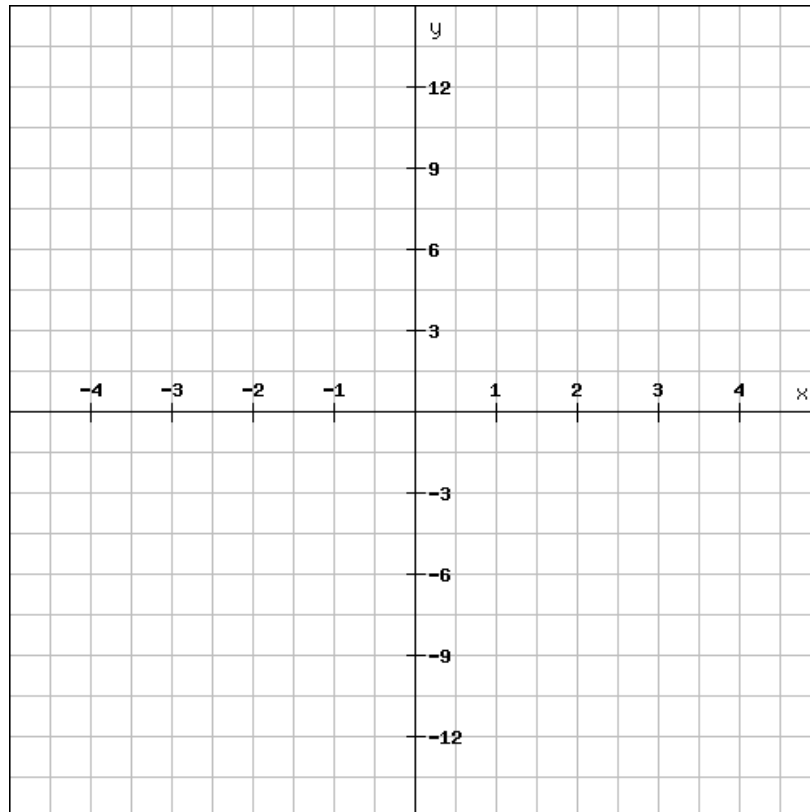
5. (24%) Given the following function:

Fill the table with: Positive, negative, zero, doesn't exist:

	x = a	x = b	x = c	x = g	x = d	x = e
f(x)						
f '(x)						

6. (46%) Given the function: $f(x) = \dfrac{3}{x-1} - x^2$

    a. (5%) Sketch the graph for $-5 \le x \le 5$ and $-15 \le y \le 15$

    b. (5%) Find: $f(2) =$

    c. (10%) Write down the coordinates of the local maximum on the graph of f

    d. (5%) Find the gradient of the tangent to the graph at $x = 2$.

    e. (15%) There is at least one more point on the graph in which the tangent has the same gradient as in $x = 2$. Find such a point.

    f. (6%)Where is the function increasing?