Practice worksheet | Introduction to calculus

Derivative sign and increasing/decreasing intervals

Name: _____ Date: _____

6 questions | 18 marks

1. Find the increasing/decreasing intervals of $f(x) = x^2 + 6x$. [3 marks]

2. Analyse $f'(x) = 4 - 2x$. [3 marks]

3. Find the sign intervals of $f'(x) = 3(x - 2)(x + 1)$. [3 marks]

4. If $g'(x) = -(x-1)(x-4)$, where is g increasing? [3 marks]

5. $h'(x) = 3x^2$. Is h decreasing anywhere? [3 marks]

6. A graph is below the x-axis but has positive tangent gradients. Is it increasing or decreasing? [3 marks]