

Calculus Worksheet #4 Unit 1 page 1 \_\_\_\_\_

Find all stationary points for each of the following functions. Use values of  $f(x)$ , the function itself, to classify each as a maximum, a minimum, or neither. Show your work and your answers neatly organized.

1.  $y = f(x) = 2x^3 - 3x^2 - 36x$

2.  $y = f(x) = x^4 + 3x^3 - 14x^2 + 10$

3.  $y = f(x) = 2x^2 - 5x - 10$

4.  $y = f(x) = 3x^4 + 4x^3 - 30x^2 + 36x$

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Find all stationary points for each of the following functions. Use values of  $f'(x)$ , the slope, to classify each as a maximum, a minimum, or neither. Show your work and your answers neatly organized.

5.  $y = f(x) = -2x^2 + 6x - 5$

6.  $y = f(x) = x^3 - x^2 - 5x - 2$

7.  $y = f(x) = -3x^3 + 12x^2 - 16x + 10$