



## **Problem Set 22: Mean Value Theorem**

For each problem, determine if the Mean Value Theorem can be used on the given interval. Then determine the point(s)  $c$  that satisfy the Mean Value Theorem.

1.  $y = -x(x - 3)$  on  $[-1, 3]$

2.  $y = \sqrt{2 - 2x^2}$  on  $[0, 4]$

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3.  $y = \sin x$  on  $\left[\frac{\pi}{6}, \frac{\pi}{2}\right]$

4.  $y = x^3 - 2x^2 + x + 1$  on  $[0, 1]$

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5.  $y = \sin^{-1}(x)$  on  $[-1, 1]$

6.  $y = \ln(2x - 2)$  on  $\left[\frac{3}{2}, 2\right]$