IN THIS STEP WE FIND THE CONCAVITY OF THE GRAPH.

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HERE WE FIND THE INFLECTION POINTS AND WHERE THE GRAPH CONCAVES UP AND DOWN.

-TO FIND THE INFLECTION POINTS OF THE GRAPH WE NEED TO SOLVE FOR

F(X)'' = 0;

-NEXT WE FIND WHERE THE GRAPH IS CONCAVE UP AND DOWN ---->

-IF THE F(X)'' > 0 THEN THERE IS A CONCAVE UP

-IF THE F(X)'' < 0 THEN THERE IS A CONCAVE DOWN

Second Derivative:

$$f''(x) = 60x^3 - 30x = 30x(2x^2 - 1)$$

$$f''(x) = 0 \Rightarrow x = 0 \text{ or } x = \pm 1/\sqrt{2}$$

$$f(0) = 0, \quad f(-1/\sqrt{2}) = (-1/\sqrt{2})^3[3(1/2) - 5) = 7\sqrt{2}/8 \cong 1.24$$

$$f(1/\sqrt{2}) = -7\sqrt{2}/8 \cong -1.24$$

x		$-1/\sqrt{2}$		0		$1/\sqrt{2}$	
$f(x)$	$\cap$	$7\sqrt{2}/8$	$\cup$	0	$\cap$	$-7\sqrt{2}/8$	
$f''(x)$	-	0	+	0	-	0	+

$(-1/\sqrt{2}, 7\sqrt{2}/8)$ and $(1/\sqrt{2}, -7\sqrt{2}/8)$ are points of inflecti.