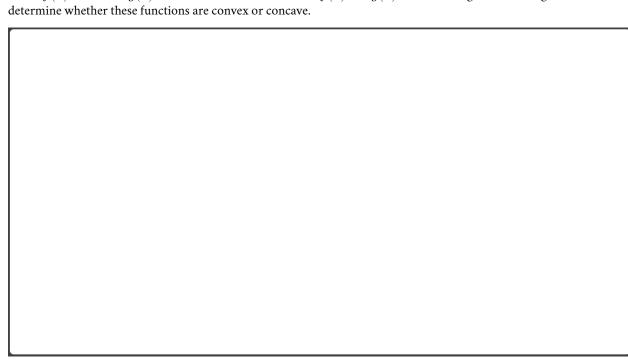
Lecture 16 Worksheet (ECON211), AY 2025-26 [Date: 28 Aug 2025]

1. If $f(x)=\sqrt{x}$ and $g(x)=x^3+4x+2$, then find $(f^{-1})'(2)$ and $(g^{-1})'(7)$ using the formula:

$$(f^{-1})'(a) = \frac{1}{f'(f^{-1}(a))}$$

2. Let $f(x)=x^2$ and $g(x)=x^3-3x$. Indicate whether f(x) and g(x) are increasing or decreasing functions. Also, determine whether these functions are convex or concave.



3. Find and class	ify the stationary poin	ts for the following	\mathbf{q} functions: \mathbf{a}) $-\mathbf{a}$	$x^3 + 3x + 1$, and b	b) $x^4 - 6x^2 + 5$.	
4. The weekly m $50 + 2q$. Set up	narket demand for Ruin the profit function and	nmytrip's product l determine the pr	is determined to l ofit-maximizing q	be $p = 100 - 2q$. uantity for Ruinm	The total cost is TC ytrip.	C(q) =
4. The weekly m $50 + 2q$. Set up	arket demand for <i>Ruin</i> the profit function and	nmytrip's product I determine the pr	is determined to l ofit-maximizing q	be $p = 100 - 2q$. uantity for Ruinm	The total cost is TC ytrip.	C(q) =
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