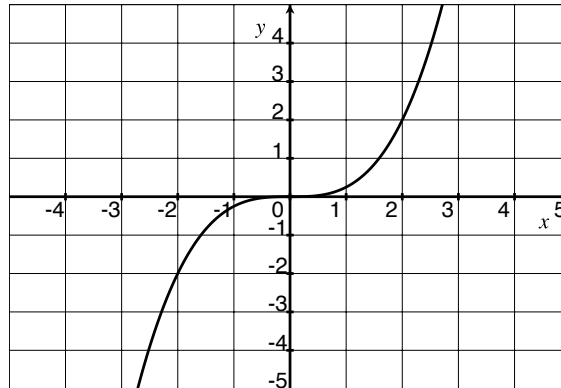# Quiz 3
TQS 211

Show *all* your work (algebraically or geometrically) for each and simplify. No credit is given without supporting work.

1. (§2.5#11) [3] You are running a grapefruit company and have an economist collecting data for you. She has found that it costs $7200 to collect 500 grapefruits but those 500 grapefruit bring in $9400 of revenue. She refuses to show you the costs and revenue you would receive if you produce 501 grapefruit but tells you that your marginal cost at 500 grapefruit is $15 and your marginal revenue is $20. Do you increase, decrease, or not change production levels? Why?

2. (Ch 2 #11) The following is the graph of a function f.

(a) [2] Find and label a point a on the graph of f with the property that f' is zero at a. Justify your answer.

(b) [2] Find and label a point b on the graph of f with the property that f'' is negative at b. Justify your answer.

(c) [3] Sketch the graph of the derivative of the function f on the axes below.