

6. (5 points) There were 238 million bushels of wheat grown in Michigan in 1990 and the wheat sold for \$2.21 per bushel that year. In 1992, there were 242 million bushels grown, and wheat sold for \$2.00 per bushel in 1992.

(a) What was the revenue from wheat in Michigan in 1990?

$$\text{Rev in 1990} = 238(2.21) = \$525.98 \text{ million}$$

In 1992?

$$\text{Rev in 1992} = 242(2.00) = \$484 \text{ million}$$

(b) What was the average rate of change of the revenue from wheat over the period of time from 1990 to 1992?

$$\text{Avg Rate of Chg. of Rev. from 1990-1992} = \frac{484 - 525.98}{2} = -20.99 \text{ million dollars/year}$$

7. (5 points) A function  $f$  is known to have positive average rate of change on the interval from  $x = 2$  to  $x = 4$ . Which of the following numbers are possible values for  $f'(3)$ ? Circle all that apply.

- (i) 3  
(ii) 0  
(iii) -2

*all are possible...*

8. (9 points) Values of functions  $f$  and  $g$  are given in the following table. The function  $g$  is known to be invertible. Determine:

(a)  $f(g(3)) = f(5) = 2$

(b)  $f(f(3)) = f(4) = 6$

(c)  $f(g^{-1}(3)) = f(2) = 7$

$x$	1	2	3	4	5
$f(x)$	0	7	4	6	2
$g(x)$	1	3	5	7	9