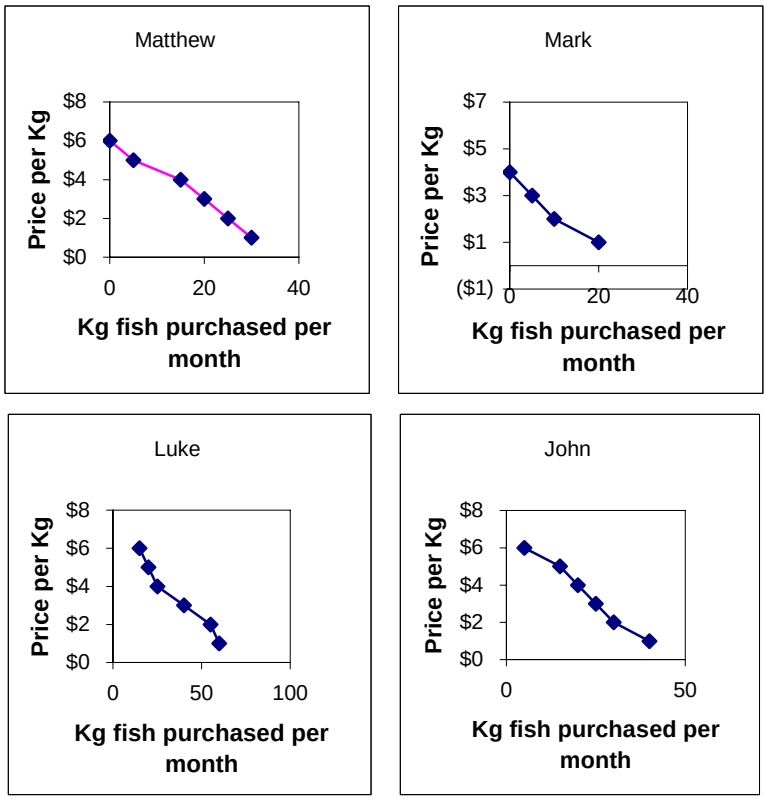
FOR 4684
Handout One
Review of Basic Demand Concepts

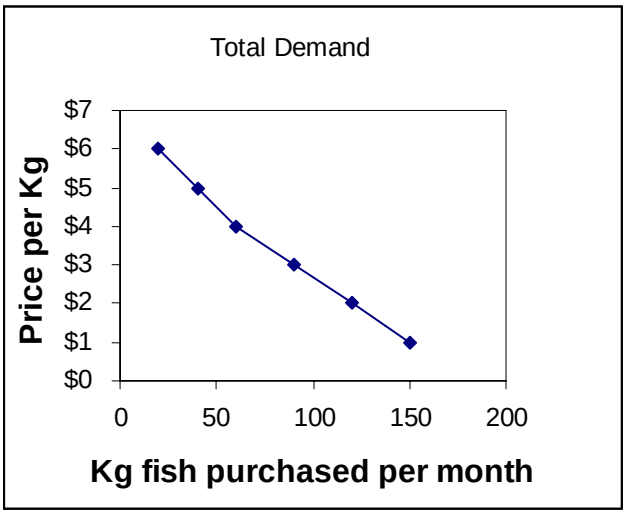
The following group of four men are buying fish locally for their consumption and for those who attend their meetings. Each of the men has an individual demand schedule as shown below:

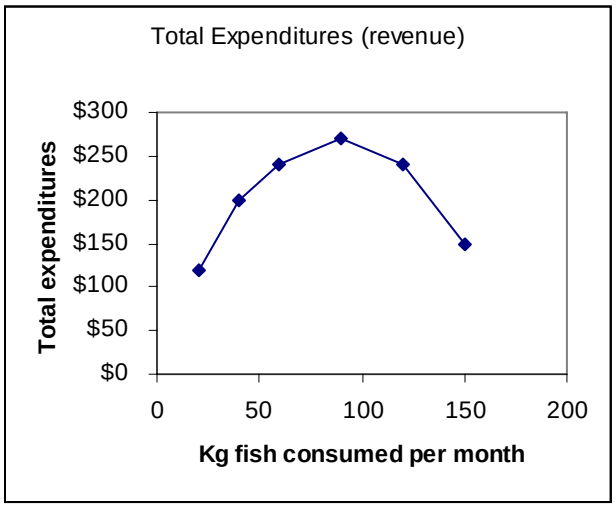
	Kilograms of fish purchased per month by …					
Price	Matthew	Mark	Luke	John	Total Demand	Total Revenue
$6	0	0	15	5	20	$120
$5	5	0	20	15	40	$200
$4	15	0	25	20	60	$240
$3	20	5	40	25	90	$270
$2	25	10	55	30	120	$240
$1	30	20	60	40	150	$150

Each of the four demand schedules can be graphed, as shown below. Note that the x-axis changes for each graph.



We can also plot the total demand, and the total revenue for the "market" as defined by four individual consumers.





These charts will be used in lecture to calculate price elasticity (next page).

Let's calculate price elasticity for the market demand curve.

Arc elasticity between prices of \$5 (Q = 40) and \$4 (Q=60) is:

$$E_p = \frac{\frac{\Delta Q}{\frac{(q_1 + q_2)}{2}}}{\frac{\Delta P}{\frac{(p_1 + p_2)}{2}}} \qquad E_p = \frac{\frac{20}{\frac{(40 + 60)}{2}}}{\frac{1}{\frac{(5 + 4)}{2}}} \qquad E_p = \frac{0.4}{0.222} = 1.8$$

Between \$5 and \$4, prices are elastic. That means that the percent change in quantity is greater than the percent change in price, so *lowering* prices will increase total revenue.

Now, let's look are price elasticity between \$2 (Q = 120) and \$1 (Q=150):

$$E_p = \frac{\frac{\Delta Q}{\frac{(q_1 + q_2)}{2}}}{\frac{\Delta P}{\frac{(p_1 + p_2)}{2}}} \qquad E_p = \frac{\frac{30}{\frac{(120 + 150)}{2}}}{\frac{1}{\frac{(1 + 2)}{2}}} \qquad E_p = \frac{0.222}{0.666} = 0.333$$

Between prices of \$1 and \$2, prices are inelastic. That means that the percent change in quantity is less than the percent change in price, so increasing prices will increase total revenue.

If we look back at the original table, we see that at \$3, total revenue (TR) is maximized at \$270. So, our interpretation of price elasticity confirms that information!