2. Breadbasket and Quicklunch are the only two sandwich shops serving a small town. Each shop can choose to set a high price or a low price for sandwiches. The payoff matrix below shows the daily profits for each combination of prices that the two shops could choose. The first entry shows Breadbasket's profits, and the second entry shows Quicklunch's profits. Assuming that both shops know the information shown in the matrix, answer the following.

		Quicklunch	
		High Price	Low Price
Breadbasket	High Price	\$105, \$110	\$40, \$130
	Low Price	\$120, \$80	\$75, \$70

(a) Does each shop have a dominant strategy to set a high price, a dominant strategy to set a low price, or does it have no dominant strategy?

(i) Breadbasket

(ii) Quicklunch

(b) If the two shops do not cooperate on setting prices, what will be the profit for each shop?

(i) Breadbasket

(ii) Quicklunch

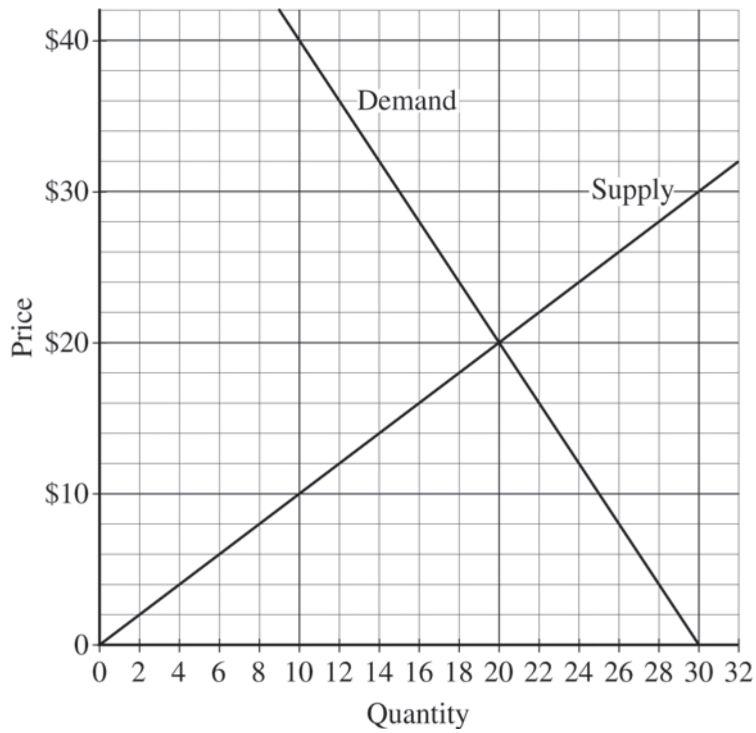
(c) The town government is concerned that food prices are too high. It decides to give a daily subsidy of \$20 to any shop that chooses to set a low price for its food items. Redraw the payoff matrix under the government subsidy system.

Using your redrawn payoff matrix, answer each of the following.

(i) Would Quicklunch choose to set a high price or a low price? Explain using specific values from your redrawn matrix.

(ii) Would the profits for Breadbasket increase, decrease, or stay the same? Explain with a comparison to your answer in part (b)(i). Use the specific values.

3. The graph below shows the market for widgets. The government is considering intervening in this market.



(a) Calculate the total producer surplus at the market equilibrium price and quantity. Show your work.

(b) If the government imposes a price floor at $16, is there a shortage, a surplus, or neither? Explain.

(c) If instead the government imposes a price ceiling at $12, is there a shortage, a surplus, or neither? Explain.

(d) If instead the government restricts the market output to 10 units, calculate the deadweight loss. Show your work.

(e) Assume the price decreases from $20 to $12.
  (i) Calculate the price elasticity of demand. Show your work.
  (ii) In this price range, is demand perfectly elastic, relatively elastic, unit elastic, relatively inelastic, or perfectly inelastic?

STOP

END OF EXAM

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Question 2

5 points (1+1+3)

(a) 1 point:
- One point is earned for stating that Breadbasket has a dominant strategy of setting a low price but Quicklunch does not have a dominant strategy.

(b) 1 point:
- One point is earned for correctly identifying the profit for Breadbasket is $120 and the profit for Quicklunch is $80.

(c) 3 points:
- One point is earned for redrawing the payoff matrix with the subsidy:

		Quicklunch	
		High Price	Low Price
Breadbasket	High Price	$105, $110	$40, $150
	Low Price	$140, $80	$95, $90

- One point is earned for stating that Quicklunch will choose a low price strategy and for explaining that with the subsidy Quicklunch will earn higher profits if it charges a lower price than if it charges a higher price. (The explanation has to include $90>$80 or profits increase by $10.)
- One point is earned for stating that Breadbasket's profits will decrease from $120 to $95.