3. Two competing retail firms, Red Shop and Blue Mart, are studying potential locations for new stores in the suburbs of a major city. Each firm must choose between a location north of the city and a location south of the city. The payoff matrix is shown below, with the first entry in each cell indicating Red Shop's daily profit and the second entry indicating Blue Mart's daily profit. Both firms know all of the information in the payoff matrix.

		Blue Mart: North	Blue Mart: South
Red Shop	North	$900, $1,800	$3,000, $3,500
	South	$5,000, $4,000	$1,500, $1,000

(a) If Red Shop chooses a location south of the city, which location is better for Blue Mart? Explain.

(b) Is choosing a location to the south of the city a dominant strategy for Red Shop? Explain.

(c) If the two firms cooperate in choosing locations, where will each firm locate?

(d) Assume that the south suburb has enacted an incentive package to attract new business. Any firm that locates south of the city will receive a subsidy of $2,000 per day. Redraw the payoff matrix to include the subsidy.

STOP

END OF EXAM

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Question 3

6 points (2 + 2 + 1 + 1)

(a) 2 points:
- One point is earned for stating that north will be better for Blue Mart.
- One point is earned for explaining that Blue Mart earns a higher profit by locating north than it does by locating south ($4,000 versus $1,000).

(b) 2 points:
- One point is earned for stating that choosing south is not a dominant strategy for Red Shop.
- One point is earned for explaining that if Blue Mart chooses south, Red Shop is better off choosing north. (Red Shop's best strategy depends on Blue Mart's move.)

(c) 1 point:
- One point is earned for stating that Red Shop chooses south and Blue Mart chooses north.

(d) 1 point:
- One point is earned for redrawing the table with the correct entries:

		Blue Mart: North	Blue Mart: South
Red Shop	North	$900, $1,800	$3,000, $5,500
	South	$7,000, $4,000	$3,500, $3,000