

Problem Set #8 answers

- A.
- (1) a. $P = \$25, Q = 50, \pi = 0$ b. $P = \$37.50, Q = 25, \pi = \312.50
- (2) a. $\pi_A = 25Q_A - .5Q_A^2 - .5Q_AQ_B$ b. $Q_A = 25 - .5Q_B$
- c. $Q_A = 16.7, Q = 33.3, P = \33.33 d. $\pi_A = \$138.86$
- (3) a. $\pi_A = 12.5Q_A - .25Q_A^2$ b. $Q_A = 25$
- c. $Q_B = 12.5, Q = 37.5, P = \31.25 d. $\pi_A = \$156.25, \pi_B = \78.12
- (4) a. $Q_A = 18.75$
- b. $\pi_A = \$175.78, \pi_B = \$117.19; \pi_A = \pi_B = \117.19
- c. $(\$156.25, \$156.25), (\$117.19, \$175.78)$
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- d. difficult to maintain the cartel because both cooperating is not a Nash equilibrium
- B.
- (1) The little pig should always wait. The big pig does not have a dominant strategy
- (2) Because the little pig has a dominant strategy (wait), the big pig will always press. The little pig will get more.
- (3) No.
- (4) hmmm....wait for others to do the R&D investment to open up a new market, then spend your money on innovation to capture a larger share of the market