

Answer to Question #90682, Economics / Microeconomics

$$C = 50 + 60Q - 18Q^2 + 2Q^3$$

a) $FC(Q) = 50$

b) $VC(Q) = 60Q - 18Q^2 + 2Q^3$

c) $MC(Q) = 60 - 36Q + 6Q^2$

d) $AFC(Q) = \frac{50}{Q}$

e) $AVC(Q) = 60 - 18Q + 2Q^2$

f) $AC(Q) = \frac{50}{Q} + 60 - 18Q + 2Q^2$

g) At Breakeven $MC=AC$,

$$60 - 36Q + 6Q^2 = \frac{50}{Q} + 60 - 18Q + 2Q^2$$

$$18Q = \frac{50}{Q} - 4Q$$

$$22Q^2 = 50$$

$$Q = 5 \sqrt{\frac{1}{11}}$$

h) At Shut down $MC=AVC$, $60 - 36Q + 6Q^2 = 60 - 18Q + 2Q^2$

$$-18Q = -4Q^2$$

$$Q = 4.5$$

Answer provided by <https://www.AssignmentExpert.com>