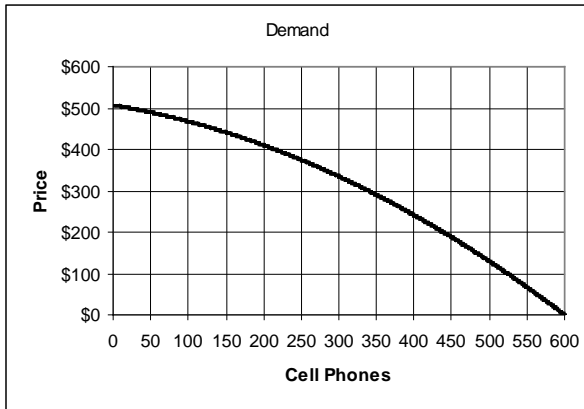
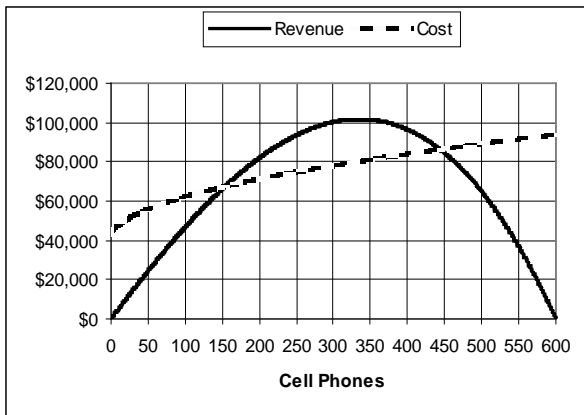


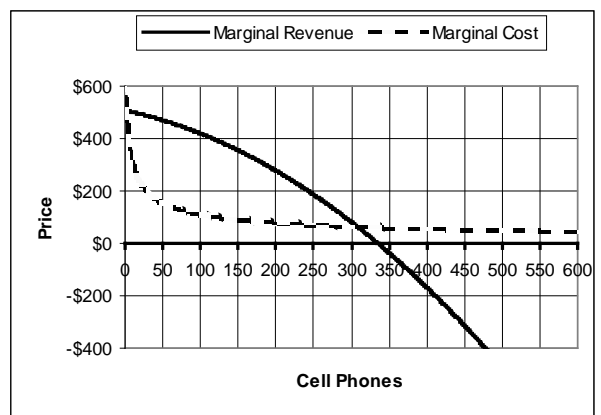
Plot 1



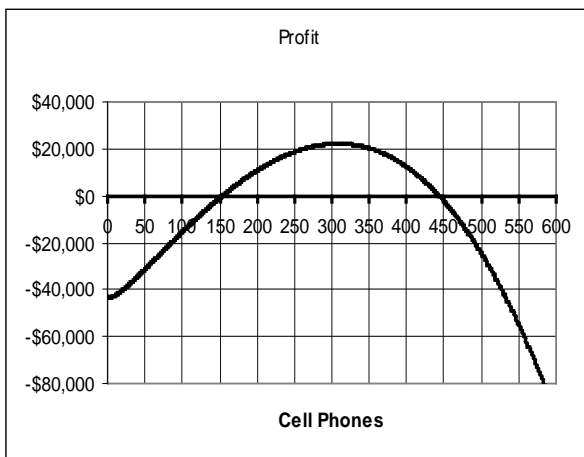
Plot 2



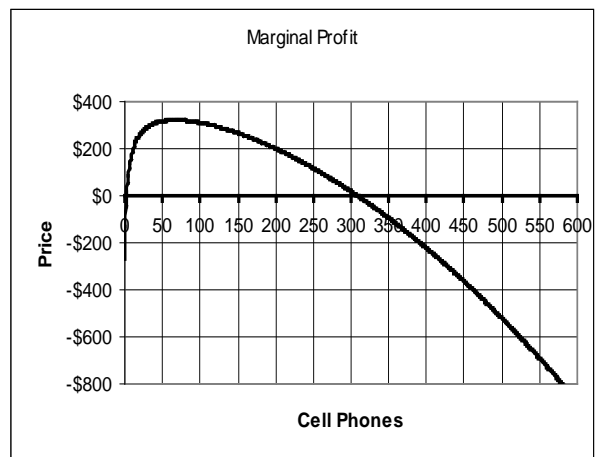
Plot 3



Plot 4



Plot 5



1. Determine which plot(s) (1 through 5) can be used to estimate the following quantities. Then estimate the value of the quantity. Include notation whenever possible.

A. Fixed costs.

B. Quantity that maximizes revenue.

C. Price for the quantity that maximizes revenue.

D. Quantity that makes marginal cost equal marginal revenue

E. Quantity that produces zero profit

F. Quantity that maximizes profit.

G. Inflection point on the profit graph

H. Total possible revenue

I. Consumer surplus when the profit is maximized.

J. Other lost revenue

2. Use $D(q) = -0.0009q^2 - 0.305q + 507$, $VC(q) = 2200\sqrt{q}$, and $C(0) = 41000$ to find equations for each for the following functions.

A. $R(q) =$

B. $C(q) =$

C. $P(q) =$

D. $R'(q) =$

E. $C'(q) =$

F. $P'(q) =$

In each case, determine what the symbols or words represent (graphically and practically if possible). In the case where calculations are shown, determine what is being computed.

1. $D(q) \cdot q$

2. $D(50) = \$36.95$

3. The value of q that makes $R(q) - C(q) = 0$

4. The value of q that makes $R'(q) = 0$.

5. The C_0 in the formula $C(q) = 23q + C_0$.

6. The value of q that makes $R'(q) = C'(q)$

7. $\frac{f(a+h) - f(a-h)}{2h}$

8. $\lim_{h \rightarrow 0} \frac{f(a+h) - f(a-h)}{2h}$

9. $\lim_{h \rightarrow 0} \frac{f(x+h) - f(x-h)}{h}$

10. $f'(a)$

11. Variable costs.

12. Slope of the tangent line to $f(x)$ at $x = a$.

13. Difference quotient.

14. Inflection point.

15. Equation of the tangent line to $f(x)$ at $x = a$.

16. The value of q where the graph of $C'(q)$ has a maximum or minimum.

17. Marginal cost

18. $MP(80) = \$500$ where q is the number of scooters and P is measured in dollars.

19. Solver

20. $f'(x) = n \cdot x^{n-1}$

21. $f'(x) = \ln a \cdot a^x$

22. $\frac{b-a}{n}$

23. Consumer surplus

24. $\int_a^b f(x)dx$

25. $\sum_{i=1}^n D(q)\Delta q$

26. m_i

27. $\int_0^b D(q)dq$ where $D(b) = 0$.

28. $\int_0^{100} (-0.3q + 500)dq - \int_0^{100} 470dq$

29. $S_{40}(f, [5, 12])$

30. Δx