Section 13.9

1) See Problem 9, Section 13.9

Let x = Length y = width z = *height* C = cost for the paint

a) Volume = xyz = _____?_____

b) Cost Function in terms of x, y, z: C = _____?_____

c) C_x = _____?_____

d) C_y = _____?_____

e) For minimum cost: x = ____?____ y = ____?____ z = ____?____

2) See Problem 13, Section 13.9

Let x_1 = units of running shoes x_2 = units of basketball shoes

a) Revenue Function: $R(x_1, x_2)$ = ____?____

b) $R_{x_1}(x_1, x_2)$ = _____?_____

c) $R_{x_2}(x_1, x_2)$ = _____?_____

d) For maximum revenue: x_1 = ____?____ x_2 = ____?____

3) See Problem 15, Section 13.9

a) $P(p,q,r) =$?

b) Write r in terms of p and q: $r =$?

c) Write P in terms of only p and q: $P =$?

d) $\frac{\partial P}{\partial p} =$?

e) $\frac{\partial P}{\partial q} =$?

f) Setting $\frac{\partial P}{\partial p} = 0$ and $\frac{\partial P}{\partial q} = 0$; solve for p and q: $p =$? $q =$?

4) See Problem 17, Section 13.9

a) Distance from P to $Q =$?

b) Distance from Q to $R =$?

c) Distance from R to $S =$?

d) Cost Function: $C(x,y) =$?

e) $C_x(x,y) =$?

f) $C_y(x,y) =$?

g) For minimum cost: $x =$? $y =$?