1. A) Constant M.P., Constant R.T.S.

B) Decreasing M.P., Decreasing R.T.S.

C) Decreasing M.P., Increasing R.T.S.

2. A) $\frac{3}{2}$

B) $\frac{3}{2}$

C) $\frac{3x_2}{4x_1}$

3. A) $4\left(2x_1^{\frac{1}{2}}\right) - 2x_1 - 4$

B) $x_1 = 4$. $y = 4$.

C) $\pi = 4$

D) Use $x_1 = 2\sqrt{2}, x_2 = 4\sqrt{2}$

4. A) $\frac{x_2}{x_1}$

B) $\frac{x_2}{x_1} = 1$

C) $x_1 = y^2, x_2 = y^2$

D) $c(y) = 2y^2$

E) $\pi(y) = 40y - 2y^2$

F) $y = 10$, $\pi = 200$