1. **Monopoly**

\[
q = \frac{1}{2} \cdot (a-c)b \\
p = \frac{a+c}{2} \\
\pi = \frac{1}{4} \cdot (a-c)^2/b \\
CS = \frac{1}{8} \cdot (a-c)^2/b \\
Total = \frac{3}{8} \cdot (a-c)^2/b \\
DWL = \frac{1}{8} \cdot (a-c)^2/b
\]

Firm 1 = Firm 2 = \(\frac{1}{4} \cdot (a-c)/b\)

Firm 1 = Firm 2 = \(\frac{1}{8} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{3}{8} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{8} \cdot (a-c)^2/b\)

2. **Cournot**

\[
q = \frac{2}{3} \cdot (a-c)/b \text{ total} \\
p = \frac{2c + a}{3} \\
\pi = \frac{2}{9} \cdot (a-c)^2/b \text{ total} \\
CS = \frac{2}{9} \cdot (a-c)^2/b \\
Total = \frac{4}{9} \cdot (a-c)^2/b \\
DWL = \frac{1}{18} \cdot (a-c)^2/b
\]

Firm 1 = Firm 2 = \(\frac{1}{3} \cdot (a-c)/b\)

Firm 1 = Firm 2 = \(\frac{1}{9} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{4}{9} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{18} \cdot (a-c)^2/b\)

3. **Stackelberg**

\[
q = \frac{3}{4} \cdot (a-c)/b \\
p = \frac{3c + a}{4} \\
\pi = \frac{3}{16} \cdot (a-c)^2/b \\
CS = \frac{9}{32} \cdot (a-c)^2/b \\
Total = \frac{15}{32} \cdot (a-c)^2/b \\
DWL = \frac{1}{32} \cdot (a-c)^2/b
\]

Firm 1 = \(\frac{1}{2} \cdot (a-c)/b\)

Firm 1 = \(\frac{1}{4} \cdot (a-c)/b\)

Firm 2 = \(\frac{1}{8} \cdot (a-c)^2/b\)

Firm 2 = \(\frac{1}{16} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{8} \cdot (a-c)^2/b\)

Firm 2 = \(\frac{1}{16} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{8} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{16} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{32} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{64} \cdot (a-c)^2/b\)

4. **Bertrand**

*(same as perfect competition)*

\[
q = \frac{(a-c)}{b} \\
p = c \\
\pi = 0 \\
CS = \frac{1}{2} \cdot (a-c)^2/b \\
Total = \frac{1}{2} \cdot (a-c)^2/b \\
DWL = 0
\]

Firm 1 = Firm 2 = \(\frac{1}{2} \cdot (a-c)/b\)

Firm 1 = Firm 2 = 0

Firm 1 = Firm 2 = 0

Firm 1 = Firm 2 = \(\frac{1}{2} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = \(\frac{1}{2} \cdot (a-c)^2/b\)

Firm 1 = Firm 2 = 0

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updated October 01, 2012