## Answer on Question \# 77573, Economics -Microeconomics:

Question: Consider a demand curve of the form $Q_{D}=20-2 P$ where $Q$ is the quantity demanded and $P$ is the price of the good. Also consider a supply curve of the form $Q_{s}=2 P-4$. Graph the curves. At what values of P and Q do these curves intersect?

## Solution:



Here, demand curve equation, $Q_{D}=20-2 P$
[ $Q_{D}=$ quantity demanded and $P=$ price of the good]
Supply curve equation, $Q_{s}=2 P-4$
[ $\mathrm{Q}_{s}=$ supplied quantity and $\mathrm{P}=$ price of the good]

The two curves intersect when, $Q_{D}=Q_{s}$

$$
\begin{aligned}
& \text { Or, } 20-2 P=2 P-4 \\
& \text { Or, } 4 P=24 \\
& \text { Or, } P=6
\end{aligned}
$$

Now put the value of $P$ in equation (2) and we get,

$$
Q=Q_{S}=Q_{D}=12-8=4
$$

So, at $P=6$ and $Q=4$, the two curves are intersect.

Answer: $\mathrm{P}=6$ and $\mathrm{Q}=4$.

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