Cost Curves

\[ AC(q) = \frac{C(q)}{q} \quad MC(q) = \frac{dC(q)}{dq} = \frac{dVC(q)}{dq} \]

<table>
<thead>
<tr>
<th>MC &gt; AC</th>
<th>AC is increasing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC = AC</td>
<td>AC is constant</td>
</tr>
<tr>
<td>MC &lt; AC</td>
<td>AC is decreasing</td>
</tr>
</tbody>
</table>

- Formula for Iso-Cost Curve: \( C = rK + wL \)

- In general,

\[
MRTS \equiv \frac{MP_L}{MP_K} \equiv \left| \frac{\text{Slope of } Iso - Quant}{\text{Slope of } Iso - Quant} \right| \equiv -\frac{w}{r}
\]

- At Optimum,

\[
MRTS \equiv \frac{MP_L}{MP_K} \equiv \left| \frac{\text{Slope of } Iso - Quant}{\text{Slope of } Iso - Cost} \right| \equiv \frac{w}{r}
\]