Worksheet-Chapter 9-Citric Acid Cycle and Electron Transport Chain

Where does the Krebs Cycle (Citric Acid Cycle) take place in the cell?

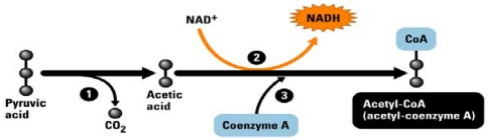
Before the Citric Acid Cycle can begin, _____ must be converted to _____.

In the following equation:

What is oxidized?

What is reduced?

Acetic acid is attached to _____ to form _____.



Krebs Cycle (Citric Acid Cycle)

Reaction 1: Acetic acid (2C) combines with _____ (4C) to form _____ (6C).

Reaction 2&3: Citrate is changed to the isomer isocitrate.

Reaction 4: Isocitrate is _____ (hydroxyl→carbonyl) to _____.

NAD+ is _____ to NADH.

Reaction 5: Alpha-ketoglutarate is _____ (carbonyl→ carboxyl) and the resulting 4 carbon compound is combined with CoA.

NAD+ is _____ to NADH.

Reaction 6: CoA is removed and a phosphate takes its place. The phosphate is used to make _____. This type of reaction is called _____.

Reaction 7: Succinate is _____ to fumarate.

FAD is _____ to $FADH_2$.

Reaction 8&9: Water is added to the double bond to form a hydroxl. The hydroxyl is _____ to a _____.

NAD+ is _____ to NADH.

_____ is regenerated.

What are the inputs to the Krebs Cycle (Citric Acid Cycle)?

What are the outputs of the Krebs Cycle (Citric Acid Cycle) for 1 molecule of glucose (2 molecules of acetic acid)?