Calvin Cycle (Light Independent Reactions) Questions

1. What products of the light reactions are used in the Calvin Cycle?

2. Why the Calvin Cycle be correctly referred to an light independent reactions but not as dark reactions?

3. Where do the reactions that convert carbon dioxide into carbohydrate molecules occur? Specifically

4. How is the Calvin Cycle similar to the Krebs's cycle?

5. Describe the first reactions of the Calvin Cycle.

6. What enzyme is responsible for catalyzing the first reaction?

7. What compound is the oxidizing agent in the next steps of the Calvin Cycle?

8. During the reduction reactions, what final product exits from the Calvin Cycle?

9. What happens to the remaining G3P molecules within the Calvin Cycle?

10. How many turns of the Calvin Cycle are required to produce 1 molecule of glucose? A 36-C molecule?

11. What are some possible fates of G3P when it exits the Calvin Cycle?

12. How many molecules of CO_2, NADPH & ATP are required to make one molecule of glucose?

13. What is the ration of NADPH:ATP needed for Calvin Cycle? How does this explain the need for both cyclic & non-cyclic electron flow in the light reactions?