

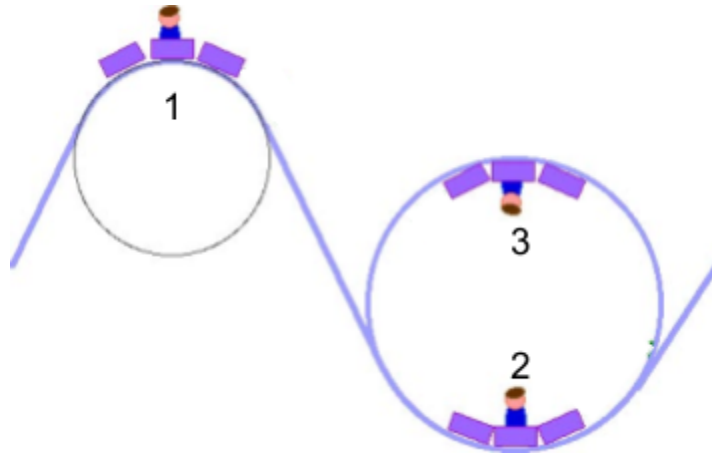
## PAL Problem Set 12 for Phys 5A (Forces and Circular Motion)

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**Always explain your answers and show your work.**

**Problem 1** - Below is a picture of a roller coaster. Assume it is moving rapidly.

- A. Draw free-body diagrams for the man in the roller coaster at the three different times shown.



- B. How does the man's apparent weight compare to his actual weight in each situation?

**Problem 2** - Below is a picture of a ferris wheel. Assume it is turning at constant speed. Draw and label free-body diagrams showing the forces on passengers at the numbered positions. Be careful to show the relative lengths on your vector arrows.

