Jump/Elevator Deeper Understanding

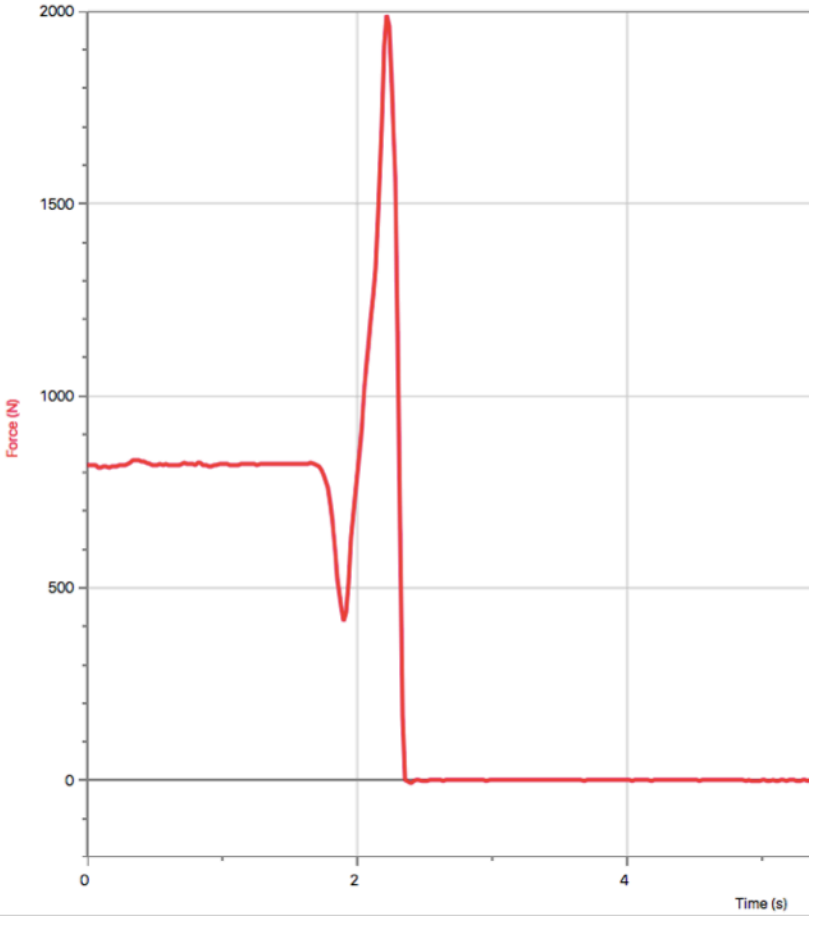
Choose any two of the following three pages to complete.

Below is a graph of the Normal Force for jumping off of a scale.

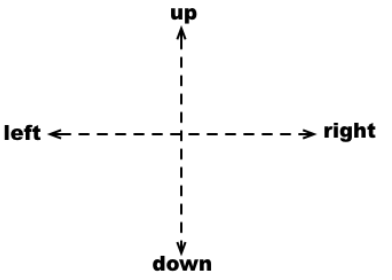
A. I have numbered and described the stages of jumping. Label the numbered stages on the graph below at the correct spots where they happened.

B. From the information, you should be able to deduce the approximate weight of the person. Put an arrow for the weight and label with its approx. value it on all of the FBDs to the right.

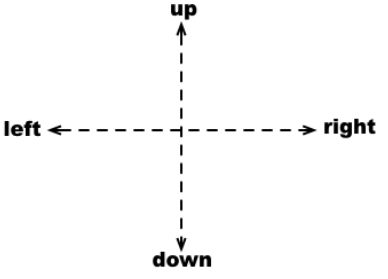
C. Also draw up arrows on the FBDs for the Normal forces at each stage. Use the approx. values from the graph to label them. Use peak values if there is a peak.



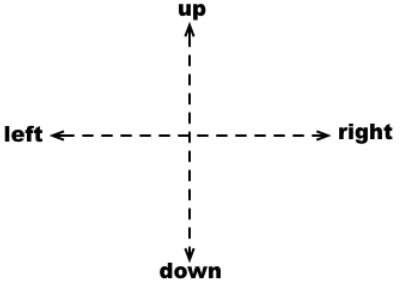
1. The person is standing still on the floor - **staying at rest**.



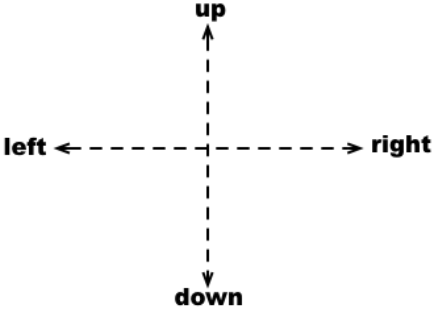
2. The person **gains speed downward.**



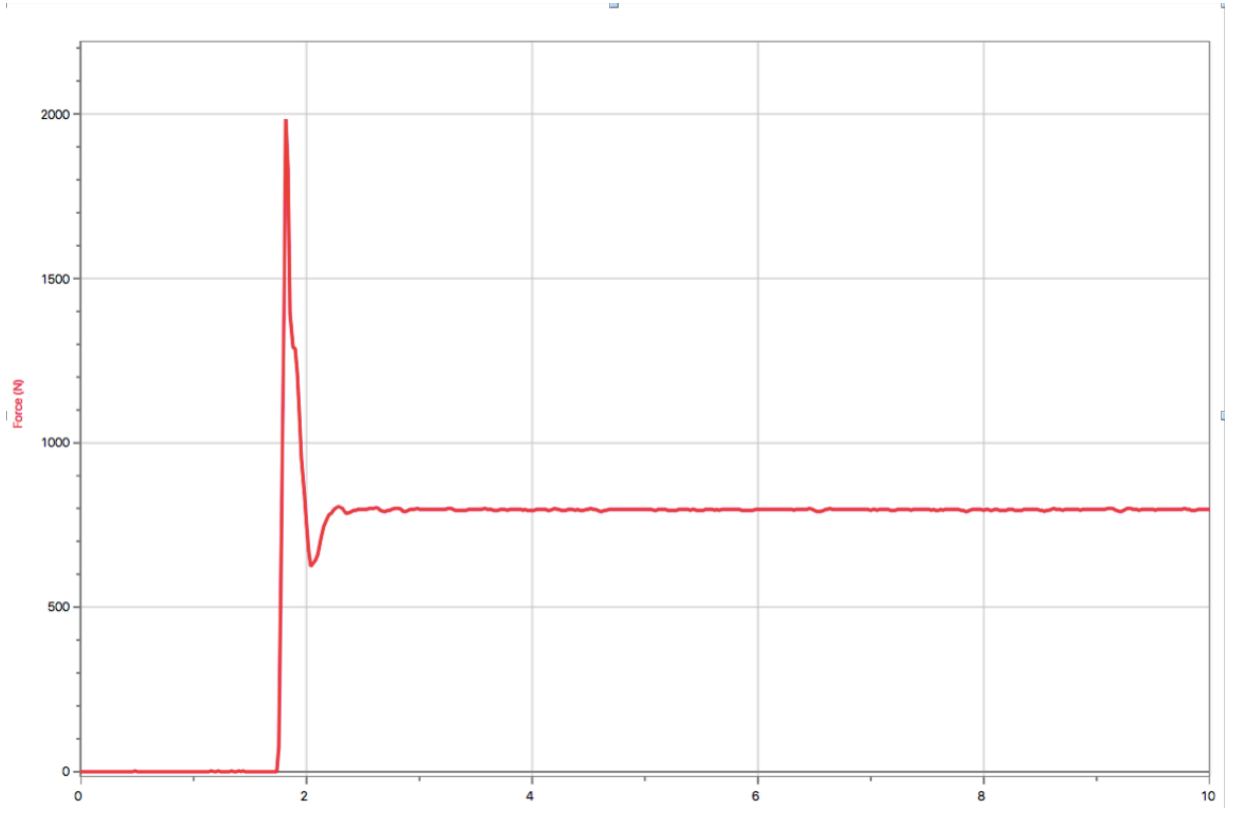
3. The person begins to **gain speed upward**



4. The person is in the air.



This appears to be a mirror image of the previous graph, but it was produced in a real physical situation. What physical situation produced it? Explain how each part of the graph corresponds with that situation.



This Force graph was made in an elevator. Is it an up journey or a down journey? How do you know? Explain how each part of the motion corresponds with each part of the graph.