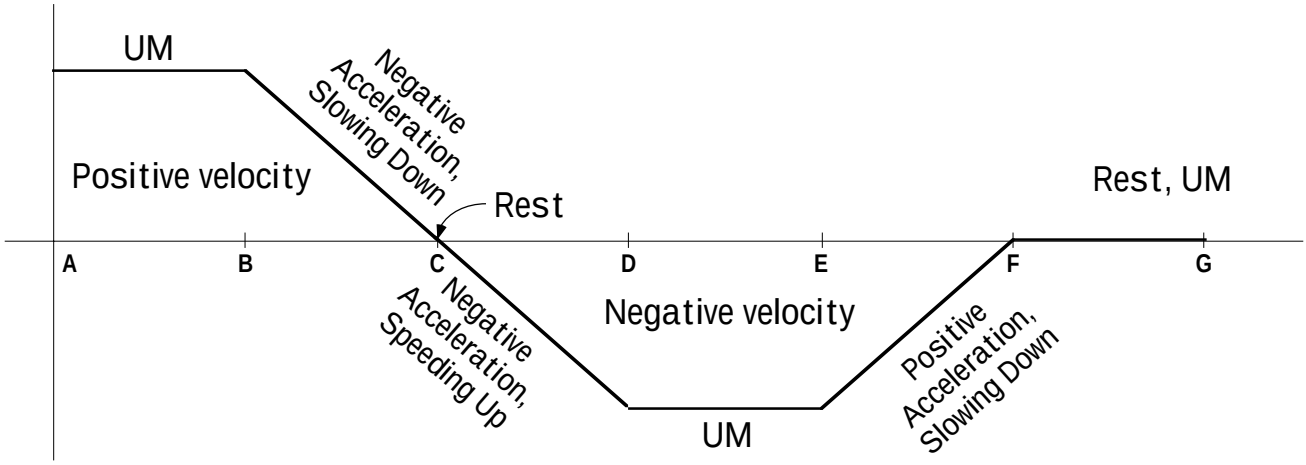
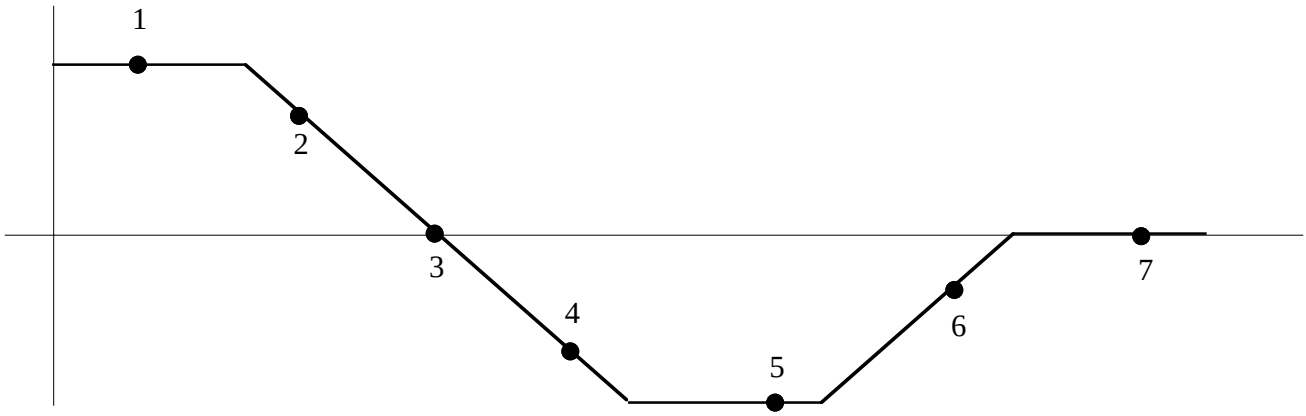
PhyzJob: What's Goin' On?

more verbal interpretations of motion graphs
(with apologies to marvin gaye)

Felix



1. The plot above shows the **velocity vs. clock reading** of a body. Label the axes accordingly. Then label the following regions of the graph.
a. When is the body traveling in the positive direction? (Label those segments "Positive velocity.")
b. When is the body traveling in the negative direction? (Label those segments "Negative velocity.")
c. When is the body at rest? (Label those segments or points "Rest.")
d. When is the body undergoing positive acceleration? (Label those segments "Positive Acceleration.")
e. When is the body undergoing negative acceleration? (Label those segments "Negative Acceleration.")
f. When is the body undergoing zero acceleration? (Label those segments "UM.")
g. When is the body speeding up? (Label those segments "Speeding Up.")
h. When is the body slowing down? (Label those segments "Slowing Down.") Notice that these are **not** identical to the place(s) labeled "Negative Acceleration."



2. Which point or points on the graph—if any—show instants at which there was

a. Uniform motion in the positive direction? 1

b. Uniform motion in the negative direction? 5

c. Rest? 3, 7

d. Positive acceleration with positive velocity? Ø

e. Negative velocity with positive acceleration? 6

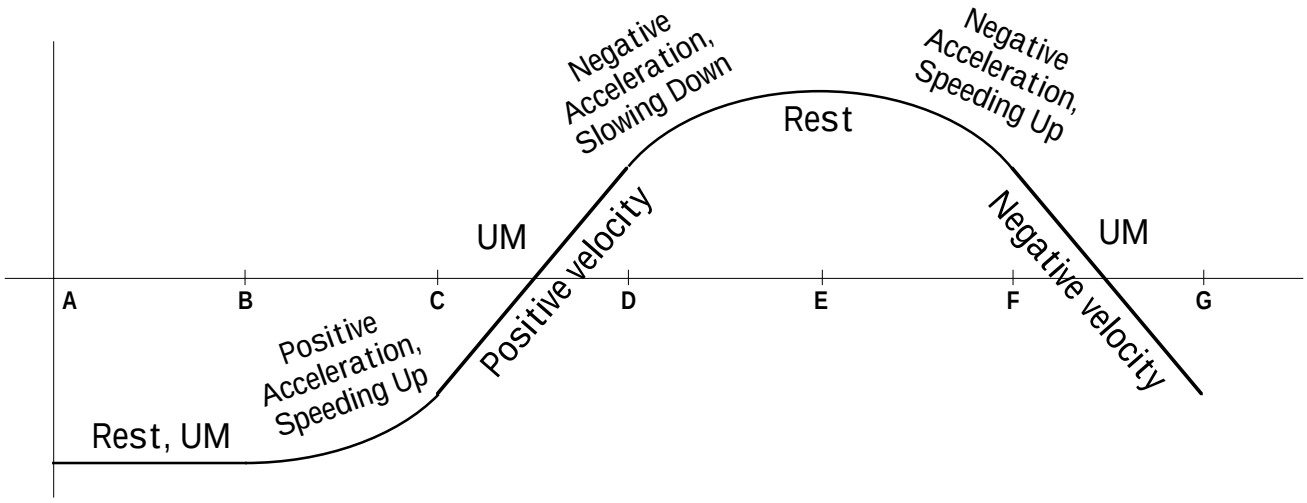
f. Negative acceleration with positive velocity? 2

g. Negative velocity with negative acceleration? 4

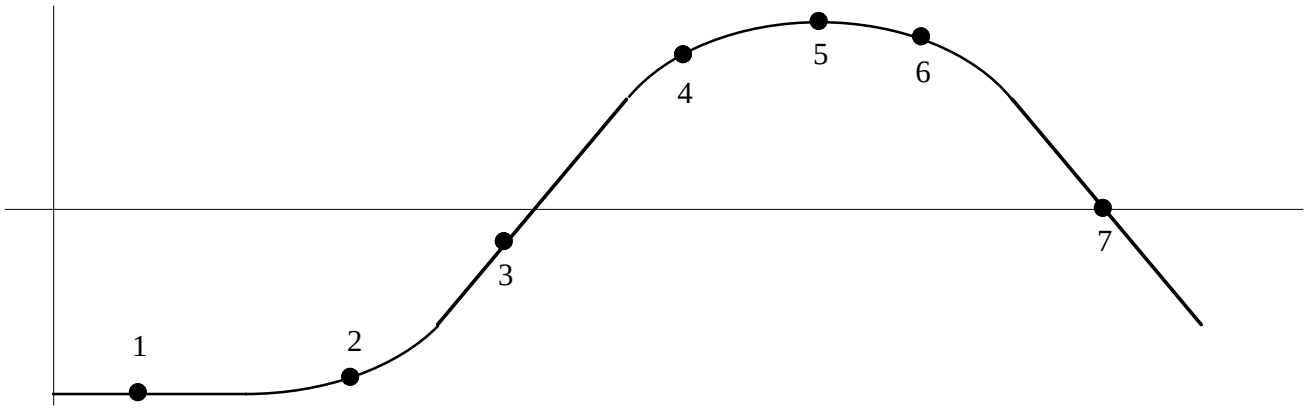
h. Zero velocity and negative acceleration? 3

i. Positive acceleration and zero velocity? Ø

db



3. The plot above shows the **position vs. clock reading** of a body. Label the axes accordingly. Then label the following regions of the graph.
a. When is the body traveling in the positive direction? (Label those segments "Positive velocity.")
b. When is the body traveling in the negative direction? (Label those segments "Negative velocity.")
c. When is the body at rest? (Label those segments or points "Rest.")
d. When is the body undergoing positive acceleration? (Label those segments "Positive Acceleration.")
e. When is the body undergoing negative acceleration? (Label those segments "Negative Acceleration.")
f. When is the body undergoing zero acceleration? (Label those segments "UM.")
g. When is the body speeding up? (Label those segments "Speeding Up.") Notice that these are **not** identical to the place(s) labeled "Positive Acceleration."
h. When is the body slowing down? (Label those segments "Slowing Down.")



4. Which point or points on the graph—if any—show instants at which there was

a. Uniform motion in the positive direction? 3

b. Uniform motion in the negative direction? 7

c. Rest? 1, 5

d. Positive acceleration with positive velocity? 2

e. Negative velocity with positive acceleration? Ø

f. Negative acceleration with positive velocity? 4

g. Negative velocity with negative acceleration? 6

h. Zero velocity and negative acceleration? 5

i. Positive acceleration and zero velocity? Ø