**Motion Graph Challenge Problems**

1. Sketch a motion graph of a Cheetah stalking its prey if his hunt was successful. You can watch a video of a cheetah hunting at <http://www.extremescience.com/cheetah.htm>. A cheetah will lie in wait in the grasses of the Serengeti Plain for a gazelle to come near. Within 3 seconds the cheetah will be running at 60 mph as he steadily and rapidly closes in on his prey.



1. Suppose you paint a red spot on a 16” diameter bicycle tire. Sketch a graph showing how far the spot is above the road as a function of time.



1. Suppose you stand 8 meters away from the teacher’s desk. You walk toward the desk steadily and quickly for 3 seconds. Then you stop for 2 seconds to pick up a pencil you dropped. Then you continue to walk slowly toward the desk for the last 5 seconds. What will your motion graph look like? Sketch it below.

