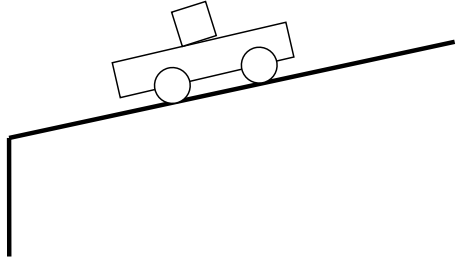


Pre-lab 9

A Hot Wheels car, whose mass is 200g is carrying a mass block of 150g climbing an incline of 30° , as shown in the graph below. Assume the car *and* the attached mass is moving with an initial velocity of 1.7 m/s. A student predicts that the car will travel a maximum distance of 42 cm. Is this a reasonable prediction? Explain fully.



If the Hot Wheels car now has its own power. When it runs with full power on the same flat surface, does the maximum travel distance change? If so, how much **change** in the maximum distance do you expect if the driving force of the car is a known constant, say 5N? Explain in detail how you arrived at your conclusion.