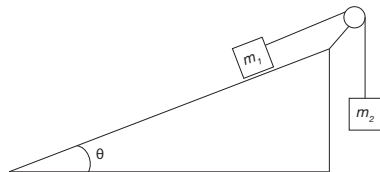# AP Physics 1 Review Questions

Integrating Content, Inquiry and Reasoning

1. Draw a free-body diagram with all relevant force vector arrows to represent the two masses connected with a string on an inclined plane, shown below.

2. Calculate the acceleration of the two-mass system if m_1 = 131.2 g, m_2 = 202.5 g, and θ = 32.3°.

3. A pug, a dachshund, and a Jack Russell terrier are engaged in a two-dimensional tug-of-war for a three-pronged chew toy. None of the dogs is able to rip the toy away from the others. Essentially, it does not move. According to the diagram shown below, the Jack Russell terrier pulls with a force of 160 N and the dachshund pulls with a force of 205 N. Necessary angles are given in the diagram. Determine the force of the pug's pull.