Hills and Dips Notes

1. Allison and her skateboard have a combined mass of 68 kg. Allison rides through a dip of radius 20 meters on her board at a velocity of 5 m/s. g = 10 m/s/s
   a. Draw a force diagram for Allison and her skateboard at the bottom of the dip

   b. Calculate the force gravity on Allison and her skateboard.

   c. What is the magnitude of centripetal force on Allison at the bottom of the dip?

   d. How much force normal does Allison and her board experience at the bottom of the dip?

   e. How many units of g force does Allison and her board experience?

2. Allison and her skateboard have a combined mass of 68 kg. Allison rides over a hill with radius 30 meters on her board at a velocity of 5 m/s. g = 10 m/s/s

   a. Draw a force diagram for Allison and her skateboard at the top of the hill.

   b. Calculate the force gravity on Allison and her skateboard.

   c. What is the magnitude of centripetal force on Allison at the top of the hill?

   d. How much force normal does Allison and her board experience at the top of the hill?

   e. How many units of g force does Allison and her board experience