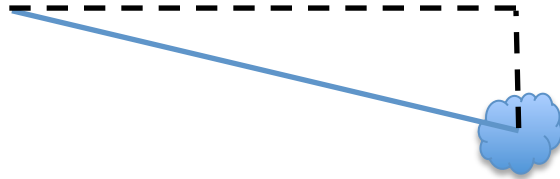


Name _____ Period _____

Circular Motion Quiz 1

A rock attached to a string is swung in a horizontal circle like you did in lab. The mass of the rock is 62.7 grams and the length of the string is 1.83 meters. The rock makes 20 circles (revolutions) in 5.27 seconds. A diagram below should assist you.



- Complete the free body diagram for the rock.
- Write the net force equations for both x and y.
- What is the weight of the rock?
- What is the tension force in y (F_{Ty}) on the rock?
- What is the velocity (v) of the rock?
- What is the circular acceleration (a_c) of the rock?
- What is the tension force in x (F_{Tx}) on the rock?
- What is the tension force (F_T) the string must provide to produce the motion?