1. A 350kg roller coaster completes a loop with radius 35m at 22m/s2. Find the following values at the top of the loop AND the bottom of the loop: Fg, a, Fn

Top:   
Fg=\_\_

a = \_\_

Fn= \_\_\_

Bottom:   
Fg=\_\_\_\_

a = \_\_

Fn= \_\_\_

1. A 1000kg car drives around a level track with radius 50m at 23m/s2. Find Fg, FN, a, Ff, μ.

Fg=\_

Fn= \_

a =

Ff =

μ =

1. A motor cross racer and bike (400kg) make a tight turn (r=10m) at 13m/s. Find Fg, FN, a, Ff, μ.

Fg=\_

Fn= \_

a = \_

Ff =\_

μ = \_

1. A roller coaster car (500kg) has a vertical loop (r=17m) that it completes at 14m/s. Find the following values at the top of the loop AND the bottom of the loop: Fg, a, Fn

Bottom:   
Fg=\_\_

a = \_\_

Fn= \_\_

Top:   
Fg=\_\_

a = \_\_

Fn= \_\_

1. A car (700kg) drives on an icy turn with radius 30m and μs = 0.18. Find Fg, FN, FFs ac, and **max velocity**

Fg=\_\_

FN=\_\_

FFs=\_\_

ac=\_\_

Vmax=\_\_

1. A 7000kg truck circles into a driveway with radius 13m and μs=0.78 Find Fg, FN, FFs, ac, and **max velocity**

Fg=\_\_

FN=\_\_

FFs­=\_\_

ac=\_\_

Vmax=\_\_

1. A car (1500kg) circles a cul-de-sac (μs=.67) radius 15m. Find Fg, FN, FFs, ac, and **max velocity**

Fg=\_\_

FN=\_\_

FFs­=\_\_

ac=\_\_

Vmax=\_\_

1. A teacher spins a rubber stopper (50g) in a vertical circle (r=0.5m) at a constant V of 9m/s. Find Fg, ac and T at the top and bottom of the loop

Top:   
Fg=\_\_

a = \_\_

T= \_\_

Bottom:   
Fg=\_\_

a = \_\_

T= \_\_