**IB Physics**

**9A-C Group Quiz**

Name

**Show your work, and circle your answers and use sig figs to receive full credit.**

1. Find the **E**quilibrant (The third force that would cause translational equilibrium) – express it as an angle magnitude vector. Draw it with its tail on the origin, and label its magnitude, and an angle with one of the axes. Write your answer with 3 sig figs, but carry at least 4 so you don’t make rounding errors.

**A =** 9.50 N

**B =** 16.0 N

47.0o

51.0o

**x**

**y**

Draw your picture here:

X:

Y:

2a. Find the tensions in the cables C and D. Set up your x and y equations where indicated and solve.

**214 kg**

75.0o

32.0o

C

D

X:

Y:

These do not need a matrix to solve - you can eliminate or use symmetry.

2b. Find the tensions in the cables C and D. Set up your x and y equations where indicated and solve.

**124 kg**

32.0o

32.0o

C

D

X:

Y:

2c. Find the tensions in the cables C and D. (D is horizontal) Set up your x and y equations where indicated and solve.

**318 kg**

35.0o

C

D

X:

Y: