## Quiz #5

Name: _____                    **Use a pencil, not a pen.**

In an *x-y* plane, **three** different forces act on a small circular object of mass *m*, which is at rest. <u>Two</u> of those forces are sketched to scale on the diagram already. You have to "measure" using the gray blocks. Each gray block represents 1 Newton.

1. [3] Write the *components* of the two forces that are already drawn. Include units and signs. One of them is already done for you as an example.

   $F_{1x} =$ _____    $F_{2x} =$ _____
   $F_{1y} =$ _____    $F_{2y} =$ _____−3 N_____

2. [1] Compute: what is the *angle* of vector $F_1$ (in degrees, using only positive numbers. Answers may be between 0° and 360°:
   $\theta_1 =$ __+_____°___

3. [1] Find the *angle* of $F_2$ (in degrees, using only positive numbers. Answers may be between 0° and 360°:
   $\theta_2 =$ __+_____°___

4. [1] What is the magnitude of $F_1$?
   $|F_1| =$ __+_____ N___

5. [1] What is the magnitude of $F_2$?
   $|F_2| =$ _____ N___

6. [2] On the sketch, and using the same scale, *draw and label $F_{12}$,* a vector starting at the center that is equal to $F_1 + F_2$.

7. [1] Knowing that $F_1 + F_2 + F_3 = 0$, draw the required vector $F_3$ on the sketch.