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| PH 201-8  Quiz 2  Force Vectors | Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (please print and also put your name on the back) |

Two masses are hung on a force table to the following specifications. 300g are hung at 45° and 250g are hung at 90°. Calculate the magnitude of the force that each mass exerts on the central ring. Circle/box your final answer.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_×\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (4pts)

(7pts)

Fill in the following table using the values you calculated above along with the cosine and sine functions:

|  |  |  |
| --- | --- | --- |
|  | x-component (N) | y-component (N) |
|  |  |  |
|  |  |  |
|  |  |  |

Use the Pythagorean theorem to find the magnitude of with units (5 pts):

Use (AKA arctangent) to find the angle of with units (4 pts):