The resultant will be in the (a) first quadrant (b) second quadrant (c) third quadrant (d) fourth quadrant (e) cannot tell which quadrant from the available information.

3. Two forces, one of magnitude 2 N and the other of magnitude 3 N, are applied to the ring of a force table. The directions of both forces are unknown. Which *best* describes the limitations on R, the resultant? Explain carefully the basis for your answer.

   (a) $R \leq 5\,\text{N}$ **(b)** $2\,\text{N} \leq R \leq 3\,\text{N}$ **(c)** $R \geq 3\,\text{N}$ **(d)** $1\,\text{N} \leq R \leq 5\,\text{N}$ **(e)** $R \leq 2\,\text{N}$.

4. Suppose the same masses are used for a force table experiment as were used in Part 1, but each pulley is moved 180° so that the 0.100 kg mass acts at 200°, and the 0.200 kg mass acts at 270°. What is the magnitude of the resultant in this case? How does it compare to the resultant in Part 1?

5. Pulleys introduce a possible source of error because of their possible friction. Given that they are a source of error, why are the pulleys used at all? What is the function of the pulleys?