Name: ____________________________________________

1. What is a vector? (10 pts)

2. Name a vector quantity and its magnitude. (10 pts)

3. What is a scalar quantity? Give two examples. (10 pts)

4. What is the equilibrant? (10 pts)

For Questions 5, 6, and 7, use the following values:

\[
\vec{A} = 5.0 \text{ N at } 135.0^\circ \quad \vec{B} = 6.0 \text{ N at } 270.0^\circ
\]

If you get the same answer for Questions 5 and 6, ask for help!

5. Using the component method, add vectors \( \vec{A} \) and \( \vec{B} \) \((i.e., \ \vec{R} = \vec{A} + \vec{B})\). (20 pts)

6. Using the component method, add vectors \( \vec{A} \) and \( -\vec{B} \) \((i.e., \ \vec{R} = \vec{A} - \vec{B})\). (20 pts)

7. Using the Tail-to-Head method, add vectors \( \vec{A} \) and \( \vec{B} \) \((\vec{R} = \vec{A} + \vec{B})\), on the back of this sheet; rulers and protractors will be provided in the physics building. Let 2.0 cm = 1.0 N. (20 pts)